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PROPOSED COMPUTER SYSTEM FOR LIBRARY CATALOG MAINTENANCE. PART II SYSTEM DESIGN.

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The logic of the system presented in this report is divided into six parts for computer processing and manipulation. They are: (1) processing of Library of Congress copy, (2) editing of input into standard format, (3) processing of information into and out from the authority files, (4) creation of the catalog records, (5) production of the catalogs, and (6) printing out the required listings and records. None of these parts are independent of the other; successive parts feed back recycling information to earlier logical units. Having only one input point and one output point in the system provides an advantage in minimizing operations complexity. The following information is provided in this volume about the computer operation of the cataloging system: (1) the flowchart of the computer runs and the associated input and output, (2) a narrative description of the functioning of the system, (3) the file content and record derivation specifications for every data file, (4) the record content sheets for each record format used by the system giving the data fields in each format, (5) the derivation of the output fields from the proper input fields, (6) the special codes and their values, (7) a summary of the error conditions, (8) the controls necessary for proper functioning of the system, (9) programming notes, and (10) two sets of parameters which define options available to the user and options available within the system for each run. (CM)

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LI 000716

PROPOSED COMPUTER SYSTEM FOR LIBRARY
CATALOG MAINTENANCE
PART II: SYSTEM DESIGN

SUBMITTED TO THE NEW YORK STATE LIBRARY

BY THEODORE STEIN

OCTOBER 1967

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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THE UNIVERSITY OF THE STATE OF NEW YORK
THE STATE EDUCATION DEPARTMENT
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ORGANIZATION OF THE SPECIFICATIONS

The system specifications consist of the following parts:

- System Definition
- Flow Chart
- Narrative Description
- File Content and Record Derivation
- Record Content
- Field Derivation
- Code Listing
- Error Conditions
- Controls
- Programming Notes
- Parameters

They are to be used as follows:

System Definition

The system definition should be read first in order to understand what the system is trying to accomplish. The remaining specification items explain in detail what processing is to be accomplished in each computer run. However, they do not explain the meaning of the various data elements, nor do they give the objectives of the various processing steps. In addition, there are a few cases in which certain of the specifications make specific reference to the system definition. This only occurs when a procedure given in the system definition contains all of the detail required to completely define the steps which the computer program must take. In this case, instead of repeating the description reference is made to the system definition.

Flow Chart

The flow chart shows every computer run. It shows every input and output for each run and shows the folow of data between runs. In order to understand the system, it is necessary to use remaining documentation in connection with the flow chart.

Narrative Description

The narrative description is not a part of the formal specifications for this system. Everything in the narrative description is repeated elsewhere in more exact form, and nowhere is the narrative description complete enough to fully define any procedure. The purpose of the narrative description is only to give the reader a basic overall picture of the functioning of the system. The specifications are quite detailed and it can be difficult to build up the total picture from the details. It is much easier to examine the details if a general picture of the system functions is first obtained. As the narrative description is read, the flow chart should be followed.

File Content and Record Derivation

For every data file specified on the flow chart, one File Content and Record Derivation specification is prepared. This specification lists every record on the file and it states the conditions under which this record will be present in the output file. For each record a reference is given to a Record Content Sheet which will describe the contents of that record in detail.

Record Content Sheets

One of these sheets is prepared for each record format used by the system. If a number of different records use the same format then only one of these sheets will be prepared for all of the records, and in the file content listing these records will all be referred to this sheet.

Each data field present in the record is listed on this sheet. To the left of the data field an X is placed if that data field is always present in the record. An O is placed if the presence of the field is optional. To the right of the field an F or V is placed to denote fixed or variable length field.

Field Derivation

In certain cases a record is transcribed unchanged from input to output. In these cases the fact is noted on the file content sheet. In all other cases the way in which the output fields are obtained from the inputs must be given. This is done by means of field derivation sheets. One of these sheets is prepared for each record in the system for which such definitions are needed. For each field in the output record the specifications for obtaining it from the proper input fields is given. In many cases there are only a few fields in the record which need any lengthy specifications, and for the rest a simple statement is given that they are transcribed unchanged from the input. Note that this particular item of documentation is the item which contains all of the information necessary to work out the program logic.

Code Listing

All of the important special codes which occur in records in the system are listed here and the allowable code values are given.

Error Conditions

Some of the error conditions that will be detected by the machine are given in the field derivation sheets. Some are given also in the system definition. This section summarizes these conditions and specifies any others which have not been previously given.

Controls

This section states the controls that must be built into the system in order to guard against loss of input or system errors in the progress from run to run.

Programming Notes

This section contains various comments which may be useful to the programmer in working out the construction of the program to implement the specifications.

Parameters

Two sets of parameters are defined. System parameters are to be defined by the user and may be incorporated into the programs since they will not normally be changed. Operating parameters must be entered for each running of the system to define certain system options (for example, running of the main Catalog Update).

GENERAL DESCRIPTION OF THE SYSTEM

The logic of the system may be divided into the following parts:

1. LC processing (run 1 - 5)
2. Edit into standard format (run 6)
3. Authority processing (run 7 - 8)
4. Cataloging (run 9 - 10)
5. Production of Catalogs (run 11 - 13)
6. Output Printing - Working Reports (run 15 - 16)

These parts are not independent of one another. Each logical unit is dependent upon preceding units. Successive units will feed back recycling information to earlier logical units, as will be seen in the succeeding writeup.

A characteristic feature of this system is that there is only one input point to the system and only one output point in the day-to-day running of the system. Data is entered in run 1 even though it may not be operated upon until run 9 and output printing from early runs is carried through the system until the single output exit point. While this slightly increases the run-time it provides an advantage in minimizing operations complexity.

Processing of Library of Congress Copy

Since the libraries intend to make extensive use of MARC produced catalog information the system must provide a means of maintaining files of this LC copy and must allow access to this copy by item number and, where possible, by alphabetic matching.

The first five runs of this series provide these mechanisms. There are several advantages of placing the runs in this position in the system.

1. The system can initially be implemented without these runs.
2. The LC subsystem may be run less frequently than the rest of the system (by allowing cataloging and authority data to enter at run 6).

3. LC copy need not be extensively operated upon until it is to be used in cataloging.

4. When LC copy is called for by item number there is no delay in the copy entering the system.

The first five runs are concerned with only two of the system inputs: LC copy and New Title Notices. All other inputs will be carried forward to be acted upon later in the system.

RUN I

INPUT EDIT

New Title Notice

The New Title Notice is entered into the system in one of two formats. If LC number is known that is all that need be entered. Where LC number is not known certain alphabetic information is required. It is felt that normally the alphabetic match will not require full author and title and that an alpha tag can be constructed which will reduce the size of alpha files to a minimum and yet provide a reasonable assurance of finding a unique match. This question can only be resolved with experience. Initially the tag for personal names may be defined as the first ten characters of the author's last name, followed by ten characters of the title.

Where the NTN has no LC number the tag will be generated in run 1 to be used in the search in run 3. The suffix of the alpha tag will be the New York Item Number. The NTN itself will be passed forward to the Item Master File.

LC Copy

The MARC project has not been completed and no final format has been defined for the machine-readable copy. It is certain though that enough information will be present to develop an alpha tag for the LC alpha search. In run 1, the LC copy will be read into the system and passed on to update the LC copy file in LC number sequence (run 5) but at the same time an alpha tag will be developed to be used in run 3.

RUN 2

ALPHA SORT

In addition to the output of run 1, run 2 will have as input recycling information on alpha tags. These recycling records will be in proper format. An explanation of these records will be given in run 10. All alpha tag records will be sorted together alphabetically. Other records, supplied with a dummy tag in run 1 will not be sorted into any particular sequence, but will be placed before the alpha tag records.

RUN 3

ALPHA UPDATE AND CHECK

The first function of run 3 will be to retag all records not connected with this run to allow the sort in run 4 to properly sequence the records for run 5. All LC copy entering the system is used in run 5. Any New Title Notices which have an LC number are also used in run 5. All other records are passed forward with arbitrary tags.

The input alpha tags are matched against the alpha tag file. The inputs are either additions to file from input or recycle, or are deletions from the recyle. Four conditions are possible:

Addition	-	No Match	-	Add to Master File - dated
Deletion	-	Match	-	Delete from file
Deletion	-	No Match	-	Should not occur - system error
Addition	-	Match	-	Further action taken

Each record on the master file contains the date the record was placed on the file. Automatic deletion of records will occur when records have existed on file for a given period of time, to be determined from experience. Deletion of the alpha records also controls deletion of LC Copy from the Dormant LC File.

Where there is a match several alternative reasons may exist:

Input	File	
LC	LC	LC input is added to file, dated. No further action is taken. It is presumed that LC will not make the error of cataloging an item under two numbers and that the match represents a coincidence because of the limitations of an alpha tag.

Input	File	
LC	Local	LC alpha record is added to file dated. Request is made to run 5 to extract the new LC copy to be printed for comparison against the local copy. Printing will be done under the local numbers.
Local	LC	Local alpha record is added to the file dated. A request is sent to run 5 to extract the LC copy to print a comparison. Printing will be done under the local number.
Local	Local	The new local alpha tag will be added to the file dated. An indication will be made under the new local number of the presence of a duplicate tag. A manual examination must be made to determine if an item has been entered under two item numbers.

RUN 4

ITEM NUMBER SORT

LC copy entering the system, NTN requests for LC copy for cataloging, NTN alpha match request (generated from run 3) for LC copy for printing and requests for deletions of LC copy are the inputs to be sorted this run. Other records are passed through without sorting. The sequencing is by LC item number and within item number by the sequence: LC additions, NTN item number requests, NTN alpha match requests, deletions.

RUN 5

LC UPDATE AND CHECK

The above four records are passed against the master tape. LC input records should have no matching LC record on file. Existence of LC-LC match is system error. LC record added to file. When LC copy matches a previously entered NTN request the LC copy is sent forward to the IMF.

NTN item number requests cause extraction of LC copy when a match is found. Should no match be found, the NTN is dated and placed on file in anticipation of future LC copy.

NTN alpha run requests cause LC copy to be extracted for printing only, under the local item number. If manual inspection indicates that the NTN and LC copy are for the same item, a subsequent NTN with the proper LC number must be entered. A request to change the local number to the LC number should also be inputed.

From time to time, older LC copy records will be removed from the current file and passed forward to be placed on the Dormant LC Copy File and across-reference is left on the LC Copy file.

LC copy deletion records generated in the alpha run cause deletion of cross-references to the Dormant file and are passed forward to delete the copy from the Dormant file.

RUN 6

EDIT RUN

Run 6 edits those records which have been up to this point simply carried through for later use in the system. In addition, run 6 extracts all established forms for the records and sets up heading check records which will be used in the following runs to check the correctness of the established forms and to extract data about the established forms. Records pulled off the LC number file for use in cataloging are edited in run 6 to the same format to which locally prepared catalog records are edited.

The filing program will also be in run 6. This program will examine designated elements in run 6 and if the elements do not have filing forms and if certain tests show that a filing form is needed the program will create the filing form. This program has not been specified at this time. Conceivably the program would be so large that it would require a separate run following run 6 to carry out the work.

RUN 7

ESTABLISHED FORM SORT

This run sorts into alphabetic sequence all those records which will be used in run 8, the authority file update and check. The sort is to straight alphabetic machine sequence, no filing forms are used.

RUN 8

AUTHORITY UPDATE AND CHECK

The authority check file contains all the established forms used in the system. These are organized into a number of separate authority files. There is one file which is designated as the main authority file and there are as many other files as desired.

Each file is assigned an authority file number and they are in sequence by authority file number. The assignment of established dorms to specific authority check files is an entirely arbitrary matter at the discretion of the system users. However, it is expected that personal and corporate names and subjects and other established forms intended for use in catalog headings will be assigned to the main authority file and that a separate authority file will be set up for each type of heading which does not generate catalog entries but which will be established. Thus if publishers or places are established separately authority files can be set up for these. When run 6 creates heading check records to be checked against the authority file, it puts the authority file number into the heading check record and run 7 sorts into sequence by authority file number.

Two types of action take place in run 8. New authority information is applied to the authority file and the authority file is updated; and, catalog worksheets and Library of Congress copy are checked against the authority file to check validity of established form and to extract information about the established forms from the authority file, if such information is present. This information consists of filing form, description codes, and (if codes are used for established form) the correct printing form is taken from the authority file.

Another function of the authority file is the transformation of Library of Congress headings. It is possible to designate Library of Congress headings to be transformed to local form in run 8.

The Authority Check file also indexes each occurance of an established form on a catalog record. Item number-element number of each occurence is held so that a uniform change to an established form will automatically generate changes to all effected records.

RUN 9

SORT TO ITEM NUMBER

Run 9 sorts all records that will be used in run 10 into item number sequence.

RUN 10

ITEM MASTER FILE UPDATE

Run 10 is the basic control run of the system. Each new catalog worksheet entered into the system is transformed into a catalog record which is entered onto the Item Master File. The Item Master File provides a mechanism for change to the catalog. It is also the file that will be used for special searches. A catalog record stays on the Item Master File while proof reading is being done and while errors are being corrected. After proof reading is completed and the record is error free catalog entry records are generated from the Item Master File and these are passed forward to the catalog files. However, the catalog record remains on the Item Master File for some predetermined period of time to allow changes to the record if errors are discovered upon inspection in the catalog or if new information is obtained, perhaps as a result of receipt of LC copy not previously available. After this preset time period has elapsed the record is dropped from the item master file. It is put upon a supplementary item master file and it can be reentered to the system any time that the record is needed in order to make changes to the catalog or for other purposes. A brief description of the various functions carried out by that run will be given in the following paragraph. A new catalog record is put onto the Item Master File and an output record is generated that will be used to print proof copy. If the preset time period for proof reading elapses with no further input for this item number, then catalog entry records are put out for each catalog entry designated in the Item Master File record. If a change to the Item Master File record is received while it is still in hold status, then the change is made to the record and the hold period is reinitiated. If a change comes through to the record after the entries have already been generated and have been passed through to the catalog, then, from the tracings in the Item Master File record, new entries are generated to correct all entries that have been made in the catalog. When LC copy is selected from theLibrary of Congress file in run 5 it is passed through and put out to the item Master File in run 10. It stays there until a decision is made by the cataloger about the use or non-use of LC copy. Depending upon this decision a catalog record is created from the LC copy or a new catalog record is created.

Whenever a change is made to those elements of an Item Master file record which are used in constructing an alpha tag the appropriate alpha tag change must be recirculated to the alpha check file.

RUN 10A

SUPPLEMENT ITEM MASTER RUN

The catalog is kept in three parts. There is a main catalog file, updated at infrequent intervals, probably in excess of a year, which will show the bulk of the holdings of the library. There is a supplement file, updated every month showing all additions and changes since last main update. And there is a current file showing all additions and changes since last supplement update. The Supplement Item Master File is kept in phase with the Supplement Catalog File and contains one record for each item number represented in the Supplement Catalog File. The records are in item number sequence. Each month, before the time that the supplement catalog is to be updated, Item Master File records which have generated entries for the supplement catalog are passed on to run 10 for addition to the Supplement Item Master

File. In addition, if change requests come through for records which are no longer on the Current Item Master File but have been passed on to the Supplement, these requests are held on the Current Item Master File until supplement time and then passed forward to the Supplement. The records will then be extracted from the supplement and recirculated through the system so that the change can be made. Thus the Supplement Item Master run accomplishes two things: it makes new additions to the Supplement Item Master File and it extracts from the Supplement Item Master File old records which are needed. Another reason for extraction from the Supplement Item Master File would be a request for catalog cards for an old record. To avoid the necessity for too frequent reference to the Supplement Item Master File, there is some overlap between the information of the Supplement Item Master File and the information on the Current Item Master File. Records are retained on the Current Item Master File for several months after they go on to the Catalog.

RUN 10B

MAIN ITEM MASTER RUN

The Main Item Master File bears a relation to the Supplement Item Master File similar to that between the Supplement and the Current. Items which have generated entries in the main catalog are represented by entries on the Main Item Master File. Additions to the Main Item Master File are passed forward from the Supplement to the Main before main catalog time and requests for old records on the Main Item Master File are passed forward from Current Item Master File to Supplement Item Master File to Main Item Master File where the records are removed and reentered into the regular basic system runs via the recycle file, R1.

RUN 11

SORT TO CATALOG SEQUENCE

In run 11 all catalog records which have been generated from the Item Master File after the expiration of the hold period are sorted into proper sequence for the catalog by use of the filing forms. Catalog records which have been newly added to the Item Master File or recently changed generate proof copy on file T10 and this is sorted in run 11 into item number sequence for entry to the proof printing run.

RUN 12

CURRENT CATALOG UPDATE

All additions and changes to the catalog since the last supplement was run are added to the current catalog. All new authority information is also added to the current catalog. The current catalog is printed for staff use on each sycle of the system but it does not produce a public catalog. The printout of the current catalog serves to inform the staff of the latest additions to the catalog. In addition, it provides a second opportunity for proof reading before the supplement is updated for preparation of multiple copies of the public catalog.

RUN 12A

SUPPLEMENT CATALOG UPDATE

At supplement time the current catalog is run against the supplement catalog and all new entries or changes to old entries are put into effect on the supplement. In addition, new authority or changes to old authorities are added to the supplement.

RUN 12 B

MAIN CATALOG UPDATE

At main catalog time the supplement catalog file is run against the main catalog file to produce an updated main catalog from which the printed main catalog is produced.

RUN 13

CATALOG PRINT

The general purpose catalog print program is used to prepare both book and card form catalogs. For production of catalog cards the daily transaction tape of updates to the current catalog is reused. Where an entry must generate several sets of catalog cards for divisional catalogs designators in the catalog record cause the program to produce duplicate cards.

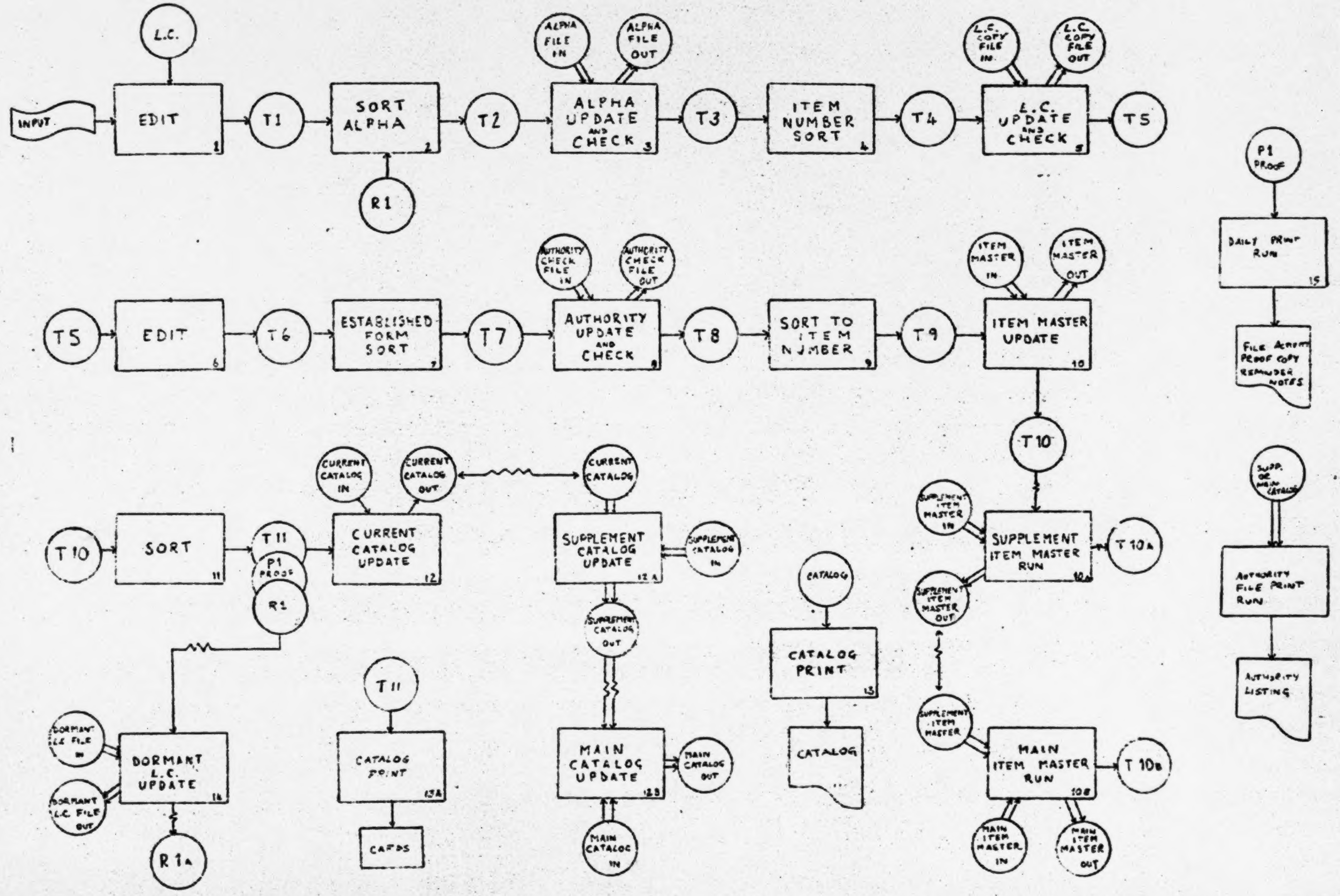
RUN 14

DORMANT LIBRARY OF CONGRESS UPDATE

After a preset time period has elapsed, Library of Congress data on the Library of Congress Number File is deleted from the file, written out on T5, passed through the system and finally run against the Dormant Library of Congress

File via file Rl. Cross-reference to this item number is left on the LC Item Number File. Thus, if at some later date a request for this LC copy comes in it will be available but a time delay will have to be taken until the next running of the Dormant Library of Congress File. File RI is used both to pass forward old records for addition to the Dormant Library of Congress File and to pass forward requests for records to be taken from the file and reentered into the system.

LIBRARY CATALOG MAINTENANCE SYSTEM


INPUT
L.C.
EDIT 1
T1
SORT ALPHA 2
R1
T2
ALPHA FILE IN
ALPHA FILE OUT
ALPHA UPDATE AND CHECK 3
T3
ITEM NUMBER SORT 4
T4
L.C. COPY FILE IN
L.C. COPY FILE OUT
L.C. UPDATE AND CHECK 5
T5
P1 PROOF
DAILY PRINT RUN 15
FILE ACTIVITY PROOF COPY REMINDER NOTES
T5
EDIT 6
T6
ESTABLISHED FORM SORT 7
T7
AUTHORITY CHECK FILE IN
AUTHORITY CHECK FILE OUT
AUTHORITY UPDATE AND CHECK 8
T8
SORT TO ITEM NUMBER 9
T9
ITEM MASTER IN
ITEM MASTER OUT
ITEM MASTER UPDATE 10
T10
SUPP. OR MAIN CATALOG
AUTHORITY FILE PRINT RUN
AUTHORITY LISTING
T10
SORT 11
T11
P1 PROOF
R1
CURRENT CATALOG IN
CURRENT CATALOG OUT
CURRENT CATALOG UPDATE 12
CURRENT CATALOG
SUPPLEMENT CATALOG UPDATE 12A
SUPPLEMENT CATALOG IN
SUPPLEMENT CATALOG OUT
CATALOG
CATALOG PRINT 13
CATALOG
SUPPLEMENT ITEM MASTER IN
SUPPLEMENT ITEM MASTER RUN 10A
T 10A
SUPPLEMENT ITEM MASTER OUT
DORMANT L.C. FILE IN
DORMANT L.C. FILE OUT
DORMANT L.C. UPDATE 14
R 1A
T11
CATALOG PRINT 13A
CARDS
MAIN CATALOG UPDATE 12B
MAIN CATALOG IN
MAIN CATALOG OUT
SUPPLEMENT ITEM MASTER
MAIN ITEM MASTER RUN 10B
T 10B
MAIN ITEM MASTER IN
MAIN ITEM MASTER OUT

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FILE CONTENT AND RECORD DERIVATION

File Name: **TRANSACTION FILE 1**

File Sequence: **INPUT SEQUENCE**

FORMAT NO.	RECORD NAME	RECORD DERIVATION
1.	Catalog Record	One record for each input Catalog Worksheet (marked CW)
2.	Delete Record	One record for each input Delete Worksheet (marked DW)
4.	Authority Record	One record for each input Authority File worksheet (marked AF)
13.	LC Cross-Reference	One record for each LC input cross-reference record. Transformed to standard cross-reference record format.
5.	Established Form Change Record	One record for each input Established Form Change (marked EF)
6.	Special Request Record	One record for each input Special Request (marked SR)
LC	LC Copy Record	One record for each LC input Catalog Copy
10.	New Title Record	One record for each input New Title Notice (marked NT)
11.	Alpha Record	a) One record for each input New Title Notice which does not have an LC number b) One record for each LC input Catalog Copy.

SORT OUTPUT FILE CONTENT

File Name: TRANSACTION FILE 2

File Sequence: ALPHA TAG, ITEM NUMBER, RECORD TYPE

SPECIAL CONSIDERATIONS

Record type may be addition, deletion. Deletions will precede additions if the first two fields should match because the presumption is that the deletion is recycled from a previous run.

RECORDS SEQUENCED

11. Alpha Records (T1)

11. Alpha File Change Records (R1)

RECORDS NOT SEQUENCED

1. Catalog Records (T1)

2. Delete Records (T1)

4. Authority Records (T1)

13. LC Cross-Reference Records (T1)

5. Established Form Change Record (T1)

6. Special Request Records

LC. LC Copy Records (T1)

10. New Title Records (T1)

12. Established Form Index (R1)

13. Cross-Reference Confirmation Records (R1)

27. Changed Item Number Records (R1)

27. Reentered Catalog Records (R1)

5. Established Form Change Confirmation Record (R1

FILE CONTENT AND RECORD DERIVATION

File Name: ALPHA CHECK FILE

File Sequence: ALPHABETIC ON ALPHA TAG FIELD - ALPHANUMERIC ON ITEM NUMBERS.

FORMAT NO.	RECORD NAME	RECORD DERIVATION
11.	Alpha Check Record	a) One record for each Alpha Check record on the input Alpha Check file which does not meet the deletion condition given below. b) One record for each record on Transaction File 2 which is marked as an addition.

Deletion Condition

An Alpha Check Record is deleted from the input file if either of the following conditions is met:

1. There is a matching Alpha Deletion Record on file T2.

or 2. Operating Parameter C2 is non-zero and the cycle field in the input record exceeds the current basic cycle number by more than the value of System Parameter P3.

FILE CONTENT AND RECORD DERIVATION

File Name: **TRANSACTION FILE 3**

File Sequence: **NOT SEQUENCED**

FORMAT NO.	RECORD NAME	RECORD DERIVATION
1.	Catalog Records	Unchanged from Transaction File 2
2.	Delete Records	" " " "
4.	Authority Records	" " " "
13.	LC Cross-Reference Records	" " " "
5.	Established Form Change Records	" " " "
6.	Special Request Records	" " " "
12.	Established Form Index Records	" " " "
13.	Cross-Reference Confirmation Records	" " " "
27.	Changed Item Number Records	" " " "
27.	Reentered Catalog Records	" " " "
5.	Established Form Change Confirmation Records	" " " "
LC	LC Copy Records	" " " "
10.	New Title Records	" " " "
14.	LC Copy Request Records, Type 1	One record for each New Title record which contains an LC number.
14.	LC Copy Request Records, Type 2	One record for each match in Alpha Check Run where the match was between an LC Alpha Tag and a Local Alpha Tag. LC copy to be used for printing only.
15.	Alpha Match Note Records	One record for each match in Alpha Check Run where match was between two local Alpha Tags. This record to be used to print notice for manual checking. Match of this type indicates possibility of two catalogings of the same item.

FILE CONTENT AND RECORD DERIVATION

TRANSACTION FILE 3 CONTINUED

FORMAT NO.	RECORD NAME	RECORD DERIVATION
14.	Dormant File Delete Record	One record for every Alpha Check Record that was deleted under Delete Condition 2 given for the Alpha Check File.

SORT OUTPUT FILE CONTENT

File Name: TRANSACTION FILE 4

File Sequence: ITEM NUMBER, RECORD TYPE

SPECIAL CONSIDERATIONS

Record type distinguishes between LC copy records and LC Copy Request Records.

RECORDS SEQUENCED

LC LC Copy Records

14. LC Copy Request Records Types 1 & 2

14. Dormant File Delete Records

1. Catalog Records

2. Delete Records

4. Authority Records

13. LC Cross-Reference Records

5. Established Form Change Records

6. Special Request Records

12. Established Form Index Records

13. Cross-Reference Confirmation Records

27. Re-entered Catalog Records

27. Changed Item Number Records

5. Established Form Change Confirmation Records

10. New Title Records

15. Alpha Match Note Records

FILE CONTENT AND RECORD DERIVATION

File Name: LC COPY FILE

File Sequence: ITEM NUMBER, RECORD TYPE

FORMAT NO.	RECORD NAME	RECORD DERIVATION
LC	LC Copy Records	a) One record for each record on input LC Copy File unless the delete condition 1 is met (see below). b) One record for each record on Transaction File 4 unless the output record so produced would meet delete condition 1. c) One modified LC Copy Record for each matching LC Copy and LC Copy Request Record to indicate that the record was used.
14.	LC Copy Request Record	a) One record for each unmatched LC Copy Request record on the input LC Copy File, unless the cycle field of the input record exceeds the current Basic Cycle Number by an amount greater than the value of System Parameter P2. b) One record for each unmatched Type 1 LC Copy Request Record on the Transaction File 4. N.B. Since the Alpha Check File should correspond to the LC Copy File an unmatched LC Copy Request Type 2 is a system error. See system error procedures.
14.	Dormant File Cross-Reference Records	a) One record is created for every LC Copy Record that is deleted under condition 1. b) One record for each record on input LC Copy File unless delete condition 2 or 3 is met (see below)
14.	Dormant LC Copy Request Record	If Operating Parameter C2 is zero, then: a) One record for each LC Copy Request Record on T4 which matches a Dormant Cross-Reference Record on the input LC Copy File.

FILE CONTENT AND RECORD DERIVATION

LC COPY FILE CONTINUED

FORMAT NO.	RECORD NAME	RECORD DERIVATION
		b) One record for each Dormant LC Copy Request Record on the input LC Copy File. If Operating Parameter C2 is non-zero, then no Dormant LC Copy Request Records are written on the output LC Copy File.

Delete Condition 1

An LC Record is deleted if Operating Parameter C2 is non-zero and either of the following conditions is met:

1. The Cycle field in the LC Copy Record exceeds the current Basic Cycle number by more than the amount of System Parameter P1.

or 2. The "Used" code is non-zero.

Delete Condition 2

There is a matching Dormant File Delete Record on File T4.

Delete Condition 3

A Dormant LC Copy Record on File T4 matches the Cross-Reference Record on the input LC Copy File.

FILE CONTENT AND RECORD DERIVATION

File Name: TRANSACTION FILE 5

File Sequence: NOT SEQUENCED

FORMAT NO.	RECORD NAME	RECORD DERIVATION
1.	Catalog Records	Unchanged from Transaction File 4
2.	Delete Records	" " " "
13.	LC Cross-Reference Records	" " " "
4.	Authority Records	" " " "
5.	Established Form Change Records	" " " "
6.	Special Request Records	" " " "
12.	Established Form Index Records	" " " "
13.	Cross-Reference Confirmation Records	" " " "
27.	Changed Item Number Records	" " " "
27.	Reentered Catalog Records	" " " "
10.	New Title Records	" " " "
5.	Established Form Change Confirmation Records	" " " "
15.	Alpha Match Note Records	" " " "
LC	LC Copy Records	One record for each match of LC Copy Request Record Type 1 with LC Copy.
17.	LC Copy Print Records	a) One record for each match of LC Copy Request Record Type 2 with LC Copy. b) One record for each match of LC Copy Request Type 1 or 2 with a Dormant File Cross-Reference Record.

FILE CONTENT AND RECORD DERIVATION

TRANSACTION FILE 5 CONTINUED

FORMAT NO.	RECORD NAME	RECORD DERIVATION
LC	Dormant LC Copy Record	One record for each LC Copy Record that has been deleted from the LC Copy File.
14.	Dormant LC Copy Request Record	If Operating Parameter C2 is non-zero, then one record is written for each LC Copy Request Record on the input LC Copy File and for each LC Copy Request Record on T4 which matches a dormant File Cross-Reference Record on the Input LC File.
14.	Dormant File Delete Record	One record for each Dormant File Delete Record on File T4.

FILE CONTENT AND RECORD DERIVATION

File Name: TRANSACTION FILE 6

File Sequence: NOT SEQUENCED

FORMAT NO.	RECORD NAME	RECORD DERIVATION
18.	Standard Catalog Records	a) One record for each Catalog Record input, edited to standard format defined by Input Control Recor b) One record for each LC Copy Record. LC Copy i edited in two phases: first, LC to Catalog format; and, second, Catalog to standard format. c) One record for each Item Number on the Delete Record, edited into standard format.
27.	Changed Item Number Record	Unchanged from Transaction File 5
27.	Reentered Catalog Item Record	" " " "
10.	New Title Record	One record for each New Title Record on Transaction File 5.
6.	Special Request Records	One record for each Special Request Record.
17.	LC Copy Print Records	One record for each LC Copy Print Record on Transaction File 5.
15.	Alpha Match Note Record	Unchanged from Transaction File 5.
LC	Dormant LC Copy Record	" " " "
5.	Established Form Change Confirmation Record	" " " "
14.	Dormant LC Copy Request Record	" " " "
12.	Established Form Index Record	" " " "
14.	Dormant File Delete Record	" " " "

SORT OUTPUT FILE CONTENT

File Name: TRANSACTION FILE 7

File Sequence: AUTHORITY FILE, ESTABLISHED HEADING, RECORD TYPE

SPECIAL CONSIDERATIONS

Records will be sorted by type in the sequence listed below.

RECORDS SEQUENCED

12. Established Form Index Records
21. Authority Update Records
13. Cross-Reference Confirmation Record
20. Heading Check Records
5. Established Form Change Confirmation Record
18. Standard Catalog Records
10. New Title Records
6. Special Request Records
17. LC Copy Print Records
15. Alpha Match Note Record
LC Dormant LC Copy Record
14. Dormant LC Copy Request Record
14. Dormant File Delete Record
27. Reentered Catalog Item Record
27. Changed Item Number Record

FILE CONTENT AND RECORD DERIVATION

File Name: AUTHORITY CHECK FILE

File Sequence: AUTHORITY FILE, ESTABLISHED HEADING, RECORD TYPE

FORMAT NO.	RECORD NAME	RECORD DERIVATION
22.	Established Form Record	a) One record unchanged from the input file for each Established Form record on input Authority Check File which has no valid matching Authority Update record.
		b) One altered record for each Established Form record on the input Authority Check File which has a valid matching Authority Update Change record.
		c) One record for each Authority Update addition record which has no matching Established Form record on the input Authority Check File. (Note: An addition record which matches the input Authority Check File is an error.)
		d) One record for each Established Form record on the input authority check file which matches an Authority Update delete record if the output Established Form record is followed by at least one Established Form Index Record. The Delete Record is considered an error unless there are no Index records.
13.	Cross-Reference Record	a) One record for each Cross-Reference Record on the input Authority Check File that does not match a cross-reference delete record. Note: If an Establish Form is deleted any cross-reference records will also be deleted.
		b) One record for each Cross-Reference Confirmation Record on Transaction File 7.
12.	Established Form Index Records	a) One record for each Established Form Index Record on the Authority Check File which is not matched by an Established Form Index Record marked "delete" on Transaction File 7. If there is a matching deletion the record is not written out. An unmatched deletion on Transaction File 7 is a system error.

FILE CONTENT AND RECORD DERIVATION

AUTHORITY CHECK FILE CONTINUED

FORMAT NO.	RECORD NAME	RECORD DERIVATION
		b) One record for each Established Form Index Record on Transaction File 7 marked as an addition.

FILE CONTENT AND RECORD DERIVATION

File Name: TRANSACTION FILE 8

File Sequence: NOT SEQUENCED

FORMAT NO.	RECORD NAME	RECORD DERIVATION
18.	Standard Catalog Records	a) Unchanged from Transaction File 7 b) One Standard Catalog Record marked "EF Change" for each Established Form Index Record which matches the "change-from" statement of the recycled established form change confirmation record.
10.	New Title Record	Unchanged from Transaction File 7
27.	Reentered Catalog Item Record	" " " "
6.	Special Request Records	" " " "
27.	Changed Item Number Record	" " " "
17.	LC Copy Print Record	" " " "
15.	Alpha Match Note Record	" " " "
LC	Dormant LC Copy Record	" " " "
14.	Dormant LC Copy Request Record	" " " "
14.	Dormant File Delete Record	" " " "
24.	Heading Records	One record for each Heading Check Record on Transaction File 7. Note: If a Heading Check Record on T7 matched the Check File, then the output record will contain information from the T7 record and information from the Check File. If there was no match the output record is a copy of the input record with error codes added.
32.	Authority Update Print Record	One record for each modification of the authority check file for printing.

FILE CONTENT AND RECORD DERIVATION

TRANSACTION FILE 8 CONTINUED

FORMAT NO.	RECORD NAME	RECORD DERIVATION
25.	Catalog Authority Entry Record	a) One record for each Authority Update Record, for update of the Catalog. b) One record for each Cross-Reference Confirmation Record for update of the Catalog. c) One record for each Cross-Reference Record where the number of Established Form Indexed records has changed from zero to non-zero or non-zero to zero, to control printing of blind cross-references.

SORT OUTPUT FILE CONTENT

File Name: TRANSACTION FILE 9

File Sequence: ITEM NUMBER, RECORD TYPE

SPECIAL CONSIDERATIONS

It is necessary to gather together the parts of catalog entries (both for items and authority) which have been separated to perform authority checks.

It is also necessary to place in proper sequence those print records for which comparison printouts are to be made.

For this reason, several artificial or auxiliary tags have been previously generated to be used as Item Number in this sort. So, for example, Heading Records related to a Standard Catalog record will sort with the corresponding Standard Catalog record. Heading records which were generated to check the two headings in a cross-reference or Established Form Change will be sorted together because they have been given the same arbitrary number. LC Copy Print records developed because there was an alphabetic match will be sorted to the auxiliary local number sequence to allow comparison printing of the LC Copy with the local copy available on the Item Master File.

RECORDS SEQUENCED

10 New Title Record

18 Standard Catalog Records

24 Heading Records, Type 1*

6 Special Request Records

17 LC Copy Print Records

24 Heading Records, Type 2
27. Reentered Catalog Item Record
27. Changed Item Number Record

* See Special Considerations above

RECORDS NOT SEQUENCED

15 Alpha Match Note Record

LC Dormant LC Copy Record

14 Dormant LC Copy Request Record

14 Dormant File Delete Record

32 Authority Update Print Record

25 Catalog Authority Entry Record

FILE CONTENT AND RECORD DERIVATION

File Name: INTERNAL TRANSACTION FILE 9A

File Sequence: ITEM NUMBER, RECORD TYPE

In Run 10 the LC Copy Records, New Title Notices, and Standard Catalog on File T9 are combined with any matching Heading Records, type 1 on File T9 to produce the actual records which will be used internally. For purposes of these specifications, an internal file, T9A, will be defined here, and will be the input used in defining the functions of run 10. In the definitions given below, a "match" means a match on item number, record source, record number.

FORMAT NO.	RECORD NAME	RECORD DERIVATION
18	Standard Catalog Records	One for each group on T9 consisting of one Standard Catalog Record and all matching Heading Records, Type 1.
18	LC Copy Records	One for each group on T9 consisting of one Standard Catalog Record and all matching Heading Records, Type 1.
18	New Title Notices	One for each group on T9 consisting of one New Title Notice and all matching Heading Records, Type 1.
6	Special Request Notices	One for each Special Request Notice on File T9
27	Reentered Catalog Item Record	One for each Reentered Standard Catalog Record on File T9.
27	Changed Item Number Record	One for each Changed Item Number Record on File T9

FILE CONTENT AND RECORD DERIVATION

File Name: ITEM MASTER FILE

File Sequence: ITEM NUMBER, RECORD TYPE

FORMAT NO.	RECORD NAME	RECORD DERIVATION
27	Catalog Item Record Normal (Status Codes 0 to 3)	a) One record for each Catalog Item Record on the input IMF unless the deletion condition is satisfied.

b) For each of the following types of record on File 9A one record is generated, provided that the T9A record does not match a Catalog Item Record on the IMF:

Standard Catalog Record with Change Type "addition"

LC Copy Record

New Title Notice

c) The accompanying decision table indicates the priority given to the various status codes when there are matching records on the Input IMF and T9A.

d) One record for each Reentered Standard Catalog Record on File T9A.

Deletion Condition: A Catalog Item Record is deleted if any one of the following conditions is satisfied:

1. There is a matching Standard Catalog Record on File T9A with change type "delete", or
2. The value of the "Date" field in the Catalog Item Record exceeds the value of Current Cycle Number by more than the amount of System Parameter P4, and the status code is zero, and Operating Parameter C3 is non-zero, or
3. There is a matching Standard Catalog Record on File T9A with an item number change.

FILE CONTENT AND RECORD DERIVATION

ITEM MASTER FILE CONTINUED

FORMAT NO.	RECORD NAME		RECORD DERIVATION
18	Catalog Item Record, Alternate (Status Code 4)	a)	One record for each LC Copy Record on File T9A that matches a Catalog Item Record with Status Code 0 or 1 and does not match an alternate Catalog Record.
		b)	One record for each alternate Catalog Record on the input IMF unless the deletion condition is met.
			Deletion Condition: 1. The value of the "Date"field exceeds Current Cycle Number by more than System Parameter P5. 2. There is a matching Standard Catalog Record on T9A with Change Type "change LC" . 3. There is a matching Standard Catalog Record on T9A with an item number change.
18.	Catalog Item Record, Delete (Status Code 5)	a)	One record for each Standard Catalog Record with Change Type "delete" or "change" or "change LC" on T9A that matches a Catalog Item Record with Status Code zero on the IMF
		b)	One record for each Deleted Catalog Record on the input IMF unless the Deletion Condition is met
			Deletion Condition: Deletion occurs if either of the following conditions is met: 1. The "Date" field in the record exceeds Operating Parameter C1 by more than System Parameter P5 2. There is a matching Standard Catalog Record on File T9A with an item number change.

FILE CONTENT AND RECORD DERIVATION

ITEM MASTER FILE CONTINUED

FORMAT NO.	RECORD NAME	RECORD DERIVATION
14	Item Number Cross-Reference Type 1 (Reference to changed number on current IMF)	a) One for each Catalog Item Record that is deleted from the input IMF under condition 3 given for that record. b) One for each type 1 Item Number Cross-Reference on the input IMF unless the Deletion Conditions are met. Deletion Conditions: Deletion occurs if either of the following conditions is met: 1. Value of "Date" in the Cross-Reference Record exceeds value of Current Basic Cycle by more than System Parameter P6., or 2. There is a matching Standard Catalog Record on File T9A with change type "delete".
14	Item Number Cross-Reference Type 2 (Reference to record on Supplement File)	a) One record for each Catalog Item Record deleted under condition 2. b) One record for each Type 2 Item Number Cross-Reference Record on the input IMF, unless the Deletion Condition is met. Deletion Conditions: Deletion occurs if any one of the following conditions is met: 1. Operating Parameter C4 is non-zero, or 2. There is a matching Standard Catalog Record on File T9A with change type "delete", or 3. There is a matching Standard Catalog Record on File T9A with an item number change, or 4. There is a matching Reentered Standard Catalog Record on File T9A.

FILE CONTENT AND RECORD DERIVATION

ITEM MASTER FILE CONTINUED

FORMAT NO.	RECORD NAME	RECORD DERIVATION
18.	Item Change Records	a) One for each Standard Catalog Record on T9A that has Change Type "Change" or "Delete", that matches an Item Number Cross-Reference Record Type 2 on the input IMF, and does not match an Item Change Record on the input IMF. b) One for each Standard Catalog Record on T9A that has change type "change to main" and does not match an item change record on the input IMF. c) One for each Item Change Record on the input IMF unless there is a matching reentered Catalog Record on File T9A.
6	Special Request Records	a) One for each Special Request on T9A that is a request for cards or proof copy, that matches an Item Number Cross-Reference Record Type 2 and does not match a Special Request Record on the input IMF. b) One for each special request on T9A that is a request for cards or proof copy that is marked for the main IMF and does not match a Special Request Record on the input IMF. c) One for each Special Request Record on the input IMF unless there is a matching Reentered Catalog Record on File T9A d) One combined record for each match between a Special Request on T9A and the IMF reflecting all outstanding requests unless there is a matchin Reentered Catalog Record

DECISION TABLE FOR ITEM MASTER FILE UPDATE

File Status	INPUT					
			Cataloging			
	New Title Notice	LC Copy	Additions	Changes	Deletions	Reentered Standard Catalog Rec.
0	Error	Add LC with SC* 4	Error	Change SC 0 to SC 5. Duplicate record & make changes. SC of changed record is 1.	Change SC 0 record to SC 5	Error
1	Error	Add LC with SC 4	Error	Make changes	Delete existing record	Error
2	Error	Error	Add as Type 1. Change SC 2 to SC 4.	Modify SC 2 record. Change SC to 1.	Delete existing record	Error
3	Error	Remove SC 3 record. Add LC with SC 2	Add as SC 1. Delete SC 3 record.	Modify SC 3 record. Change SC to 1.	Delete existing record	Error
4	Error	Error	Error - SC 4 exists only if SC 0 or 1 is present or a X-ref. exists.	If change is marked "change LC" apply change, give record SC of 1. If SC 0 record exists change the SC from 0 to 5. If a record with SC 1 exists replace it with the modified LC record.	Delete existing record	Reentered with SC 0.
5	Error	Add LC with SC 4.Change date in delete record.	Error	Modify type 5 record. Change SC to 1 .	Error	Error
No cat. record	Record Entered SC 3 unless there is X-ref.	Add LC with SC 2 unless there is a X-ref. to Supp. If X-ref. exists SC is 4	Entered as SC 1 unless there is X-ref. to Supp.	Error unless there is X-ref. to Supp.	Error	Reentered as SC 0. Error if no item change records are present.

* SC = Status Code

FILE CONTENT AND RECORD DERIVATION

File Name: TRANSACTION FILE 10

File Sequence: ITEM NUMBER

FORMAT NO.	RECORD NAME	RECORD DERIVATION
29.	Catalog Entry Records	One record for each element with an entry control code of "trace" or "main" in each Catalog Item Record on the output IMF that meets the following conditions: 1. Status Code is 1, 2, 3, or 5 2. Operating Parameter C1 exceeds "Date" field by an amount equal to or greater than the value of System Parameter P5. 3. The IMF error code is zero Note: Entry record generated from Catalog Item Record with code 5 (deleted record) will be coded as a deletion. All other entry records will be coded as additions. Note: Special Requests for immediate release or hold of an entry are effected by altering the "date" field. Special Requests for cards cause generation of Catalog Entry Records (marked for card printing only).
27.	Changed Item Number Record	One record for each Catalog Item Record on the input IMF that matches a Standard Catalog Record with item number change on File T9A.
11.	Alpha File Change Records	Two records for each Change to a Catalog Item Record which would affect the content of the Alpha records tag - one record a delete of the old tag and one record an addition of the new tag - for recirculation.

FILE CONTENT AND RECORD DERIVATION

TRANSACTION FILE 10 CONTINUED

FORMAT NO.	RECORD NAME	RECORD DERIVATION
12.	Established Form Index Records	a) One record for each added established field in a Catalog Item Record indicating the item number and element number of the established field. b) Two records for each change to an established field in a Catalog Item Record - a deletion of the old form and an addition of the new form. c) One record for each deletion of an established field in a Catalog Item Record - marked as a deletion.
31.	Catalog Activity Print Record	a) One print record for each Catalog Item record which has been added, modified or deleted, indicating the activity which has taken place. b) One record for each Special Request calling for proof copy. c) One record for each LC Copy Print Record showing both LC and local cataloging. Printed in local number sequence.
31.	Error Reminder Record	One print record is produced when all of the following conditions are met: 1. Operating Parameter C7 is non-zero; and, 2. The current basic cycle number exceeds the "date" in a Catalog Item Record by more than System Parameter P7; and, 3. The IMF Error Code is non-zero.
33.	LC Cross-Reference Print Record	One record for each input LC Cross-Reference regenerated from the Heading Records indicating the status of the Headings on the local Authority File.

FILE CONTENT AND RECORD DERIVATION

TRANSACTION FILE 10 CONTINUED

FORMAT NO.	RECORD NAME	RECORD DERIVATION
13.	Cross-Reference Confirmation Record	One record for each pair of Heading Records which were generated from a cross-reference on Authority Update Records in run 6, if both headings checked against the Authority Check File. If either heading was incorrect an error record is printed.
5.	Established Form Change Confirmation Record	One record for each pair of Heading Records which were generated from an Established Form Change Record in run 6, if both headings checked against the Authority Check File. If either heading was incorrect and error record is printed.
25.	Catalog Authority Entry Records	Unchanged from Transaction File 9.
32.	Authority Update Print Records	" " " "
15.	Alpha Match Note Records	" " " "
LC	Dormant LC Copy Records	" " " "
14.	Dormant LC Copy Request Records	" " " "
14.	Dormant File Delete	" " " "
27.	Catalog Item Record	When Operating Parameter C3 is non-zero, the recor on the IMF which meet the following criteria are sent forward to the Supplement File: 1. Status Code is zero 2. The current basic cycle number exceeds the "dat field by more than System Parameter P4.
14.	Catalog Item Request Record	When Operating Parameter C3 is non-zero presence o the following records on the Item Master File causes generation of Catalog Item Request Records: a) Catalog Item Change Records b) Special Request Records

FILE CONTENT AND RECORD DERIVATION

File Name: SUPPLEMENT ITEM FILE

File Sequence: ITEM NUMBER

FORMAT NO.	RECORD NAME	RECORD DERIVATION
27.	Catalog Item Records	a) One record for each Catalog Item Record on the input Supplement Item Master File unless a Catalog Item Request Record has been entered. When there is a matching Request Record, the Catalog Item Record is rewritten out to Transaction File 10A for recirculation to the current IMF. b) One record for each Catalog Item record on Transaction File 10.
14.	Item Number Cross-Reference Records	One record for each Catalog Item Record that has passed on to Main Item Master File.
14.	Catalog Item Request Record	a) One record for each Catalog Item Request from Transaction File 10 which matches an Item Numbe Cross-Reference Record. b) One record for each Catalog Item Request on the Supplement Item Master File.
	All records normally on Transaction File 10A	When Main cycle of Item Master run is executed (Operating Parameter C6 is non-zero) records are passed through the system from the Supplement Item Master instead of Transaction File 10A.

FILE CONTENT AND RECORD DERIVATION

File Name: TRANSACTION FILE 10A

File Sequence: ITEM NUMBER, INTERSPERSED NON-SEQUENCED RECORDS

FORMAT NO.	RECORD NAME	RECORD DERIVATION
27	Reentering Catalog Item Record	One record for each Catalog Item Request record which matched a Catalog Item Record on the Supplement Item Master File.
	All other records on Transaction File 10 except for Catalog Item Records andCatalog Item Request Records	Catalog Item Records and Catalog Item Request Records are applied to Supplement Item Master. Transaction File 10A is used as input to the next run instead of Transaction File 10.

FILE CONTENT AND RECORD DERIVATION

File Name: MAIN ITEM MASTER FILE

File Sequence: ITEM NUMBER

FORMAT NO.	RECORD NAME	RECORD DERIVATION
27.	Catalog Item Records	a) One record for each Catalog Item Record on the input Main Item Master Record. b) One record for each Catalog Item Record on the Supplement Item Master File which has aged sufficiently to be removed to the Main Item Master File.

FILE CONTENT AND RECORD DERIVATION

File Name: TRANSACTION FILE 10B

File Sequence: NOT SEQUENCED

FORMAT NO.	RECORD NAME	RECORD DERIVATION
27.	Reentering Catalog Item Record	One record for each Catalog Item Request Record on the Supplement Item Master File which matched a Catalog Item Record on the Main Item Master File.
	All other records normally found on Transaction File 10A	Records which are normally present in the daily cycle of the system are passed through to further runs from this point when the Main Item Master cycle is run.

SORT OUTPUT FILE CONTENT

File Name: TRANSACTION FILE 11, PRINT FILE, RECYCLING FILE 1

File Sequence: FILE TYPE, SORT TAG

SPECIAL CONSIDERATIONS

The sort used here must be specially modified to allow extraction of different files. Each file will have different sequencing requirements and these requirements will be listed by file. In order to allow the sort to sequence various files in different ways it is necessary to construct a sort tag in runs preceding this sort which will allow uniform sequencing within file type.

File Name: TRANSACTION FILE 11

Sort Tag: HEADING FILING FORM, RECORD TYPE

RECORDS SEQUENCED

25. Catalog Authority Entry Records

29. Catalog Entry Records

File Name: PRINT FILE

Sort Tag: REPORT TYPE, RECORD TYPE, REPORT SEQUENCE

a) Catalog Activity Report

31. Catalog Activity Print Records - Sequenced by Error Type, Item Number

b) Authority Update Report

32. Authority Update Print Record - Sequenced by Record Type, Established Form

c) System Notes Report

33. LC Cross-Reference Print Record - Sequenced by Heading

15. Alpha Match Note Record - Sequenced by Item Number

Error Reminder Record - Sequenced by Item Number

SORT OUTPUT FILE CONTENT
CONTINUED

File Name: RECYCLING FILE 1

12. EF Index Records - not sequenced

15. EF Change Confirmation Records

11. Alpha Records - not sequenced

13. Cross-Reference Confirmation Records - not sequenced

27. Reentering Catalog Item Record

27. Changed Item Number Record

LC Dormant LC Copy Records - sequenced by item number

14 Dormant LC Copy Request Records - sequenced by item number

14 Dormant File Delete Records - sequenced by item number

FILE CONTENT AND RECORD DERIVATION

File Name: CURRENT CATALOG

File Sequence: HEADING FILING FORM, RECORD TYPE

FORMAT NO.	RECORD NAME	RECORD DERIVATION
25.	Catalog Authority Entry Record	a) One record for each unmatched Catalog Authority Record on the input Current Catalog. b) One record for each unmatched Catalog Authority Record on Transaction File 11. c) One record, from Transaction File 11, for each matching of Catalog Authority Record from Current Catalog and Transaction File 11 unless the Transaction File Record is a deletion.
29.	Catalog Entry Record	Rules for filing are the same as 3. above. Note: If two records match on Heading Filing Form except for item number .indication of the possibility duplicate cataloging will be noted when the Catalog is printed.

FILE CONTENT AND RECORD DERIVATION

File Name: DORMANT LC COPY FILE

File Sequence: LC ITEM NUMBER

FORMAT NO.	RECORD NAME	RECORD DERIVATION
LC	LC Copy Record	a) One record for each LC Copy Record on the input Dormant LC Copy File which does not satisfy one of the deletion conditions below. b) One record for each Dormant LC Copy Record on Recycle File 1. Deletion Conditions: An LC Copy Record is deleted if either of these conditions is met: 1. There is a matching LC Copy Request Record on Recycle File 1 . or 2. There is a matching Dormant File Delete Record on Recycle File 1. 3. The current basic cycle exceeds the date in the Dormant LC copy record by more than system parameter P8; and, the record has been marked "Used".

FILE CONTENT AND RECORD DERIVATION

File Name: RECYCLING FILE 1A

File Sequence: NOT SEQUENCED

FORMAT NO.	RECORD NAME	RECORD DERIVATION
12	EF Index Record	
6	EF Change Confirmation Record	
11	Alpha Records	" " " "
13.	Cross-Reference Confirmation Records	" " " "
27.	Changed Item Number Records	" " " "
27.	Reentering Catalog Item Record	" " " "
LC	LC Copy	One record for each match of Dormant LC Copy Request Record on the Recycle File 1 and Dormant LC Copy record on Dormant LC File.

RECORD CONTENT SHEET NO.1

Record: CATALOG WORKSHEET File: INPUT
T 1 to T 5

x	Record Mark	F
x	Record ID	F
x	Change Type	F
x	Item Number	F
x	Elements	V

Elements

X	Element Mark	F	
X	Eleme nt Number	F	
O	Start Code Field (<)	F	Subelement
O	Codes	V	
O	End Code Field (>)	F	
X	Statement*	V	
O	Start Filing Form (<)	F	
O	Filing Form	V	
O	End Filing Form (>)	F	
O	Start Print Form (<)	F	
O	Print Form	V	
O	End Print Form (>)	F	
O	Element Subdivider (Δ)	F	
O	Next Subelement etc.		

*Note: In first subelement only, it is possible to have an element subdivider between End Code Field and Statement.

RECORD CONTENT SHEET NO. 2

Record: DELETE WORKSHEET File: INPUT
T 1 to T 5

X	Record ID	F
X	Item Number	F
O	Repeat for as many item numbers as needed	

RECORD CONTENT SHEET NO.4

Record: AUTHORITY FILE WORKSHEET File: INPUT
AUTHORITY RECORD T1 to T5

X	Record ID	F
X	Change Type	F
O	File Number	V
X	Element Mark	F
X	Established Form	V
O	Elements	V

Elements

X	Element Mark	F
X	Element Number	V
X	Element	V

RECORD CONTENT SHEET NO.5

Record: ESTABLISHED FORM CHANGE
ESTABLISHED FORM CHANGE
CONFIRMATION

File: INPUT
T7, T 10, R 1,
AUTHORITY CHECK FILE

X	Record ID	F
X	Old Statement	V
X	Separator Character ⌑	F
X	New Statement	V
O	Filing Form*	V
O	Print Form *	V

* On Confirmation Record

RECORD CONTENT SHEET NO.6

Record: SPECIAL REQUEST RECORD File: INPUT
T 1 to T 9

X	Record ID	F
X	Item Number	F
X	Card Code	F
X	Proof Code	F
X	Enter Now Code	F
X	Hold Period	F

RECORD CONTENT SHEET NO.10

Record:	NEW TITLE NOTICE	File:	INPUT T 9

X	Record ID	F
X	Item Number	F
O	Elements	V

Elements

X	Element Mark	F
O	Element Number	F
X	Statement	V

RECORD CONTENT SHEET NO. 11

Record: ALPHA RECORD File: T1, T2, T10
R1
ALPHA

X	Record ID	F
X	Item Number	F
X	Alpha Field	F
X	Change Type	F

Variations

On the Alpha Check File the following field is added:

X	Date (Cycle Number)	F

RECORD CONTENT SHEET NO. 12

Record: ESTABLISHED FORM INDEX RECORD File: T2 to T7, T10
R1
AUTHORITY CHECK FILE

X	Record ID	F
X	Established Form	V
X	Change Type	F
X	Item Number	F
X	Element Number	F

RECORD CONTENT SHEET NO. 13

Record: CROSS-REFERENCE CONFIRMATION RECORD File: T1 to T7, T 10
LC CROSS-REFERENCE R 1
AUTHORITY CHECK

X	Record ID	F
X	Record Type	F
X	First Statement	V
X	Relationship Code	F
X	Second Statement	V
O	Filing Form *	V
O	Print Form *	V

* On Confirmation Record

RECORD CONTENT SHEET NO.14

Record:	LC COPY REQUEST RECORD	File:	T3 to T10
	DORMANT FILE CROSS-REFERENCE RECORD		R1
	CATALOG ITEM REQUEST RECORD		LC COPY
	ITEM NUMBER CROSS-REFERENCE		ITEM MASTER
	DORMANT FILE DELETE		

X	Record ID	F
X	Item Number	F

Variations

1. Since all that is required in Request and Cross-Reference records is an item number and an indication of the way the item number is to be used, the above Record ID Field suffices to differentiate the various records.

2. LC Copy Requests, Type 2, generated in run 3 have an additional field:

X Local Item Number F

RECORD CONTENT SHEET NO.15

Record: ALPHA MATCH NOTE RECORD File: T3 to T 10
P 1

X	Record ID	F
X	Local Item Number	F
X	Second Local Item Number	F

RECORD CONTENT SHEET NO.17

Record: LC COPY PRINT RECORD File: T5 to T9

X	Record ID	F
X	Local Item Number	F
X	LC Copy	V

RECORD CONTENT SHEET NO.18

Record: STANDARD CATALOG RECORD File: T6 to T9
I T EM MASTER

X	Record ID	F
X	Change Type	F
X	Item Number	F
O	Elements	V

Elements

X	Element Code	F	
X	Element Code Suffix	F	
X	Entry Control Code	V	
X	Designators	F	
X	Authority File No.	V	Subelement
O	Statement	V	
O	Filing Form	V	
O	Print Form	V	
O	Description Codes	V	

Repeat subelement as many times as needed

RECORD CONTENT SHEET NO.20

Record: HEADING CHECK RECORD **File:** T6, T7

X	Record ID	F
X	Establishment Code	F
X	Statement	V
X	Item Number	F
O	Element Code	F
O	Element Code Suffix	F
O	Subelement Number	F

RECORD CONTENT SHEET NO.21

Record: AUTHORITY UPDATE RECORD File: T6, T7

X	Record ID	F
X	Establishment Code	F
X	Statement	V
X	Record Type	F
O	Filing Form	V
O	Print Form	V
O	Description Codes	V
O	Cataloger Notes	V
O	Public Notes	V

RECORD CONTENT SHEET NO. 22

Record: ESTABLISHED FORM RECORD **File:** AUTHORITY CHECK

X	Record ID	F
X	Establishment Code	F
X	Statement	V
X	Disposition Code	F
O	Second Statement	V
O	Filing Form	V
O	Print Form	V
O	Description Codes	V

RECORD CONTENT SHEET NO.24

Record: HEADING RECORD File: T8, T9

X	Record ID	F
X	Error Indicator	F
O	Element Code	F
O	Element Code Suffix	F
O	Subelement Number	F
X	Statement	V
O	Filing Form	V
O	Print Form	V
O	Description Codes	V
X	Item Number	F

RECORD CONTENT SHEET NO.25

Record: **CATALOG AUTHORITY ENTRY RECORD** File: T8 - T11 CATALOG

X	Record ID	F
X	Statement Filing Form	V
O	Statement Print Form	V
O	Public Notes	V
O	Cataloger Notes	V

RECORD CONTENT SHEET NO.27

Record: CATALOG ITEM RECORD
REENTERED CATALOG ITEM RECORD
CHANGED ITEM NUMBER RECORD

File: ITEM MASTER FILE
T10, Rl, T2 to T9

X	Record ID	F
X	Item Number	F
X	Date	F
X	Hold Period	F
X	Status Code	F
X	Elements	V

Elements

X	Element Code	F	
X	Element Code Suffix	F	
X	Entry Control Code	F	
O	Designators	V	
X	Establishment Code	F	Subelement
X	Statement	V	
O	Filing Form	V	
O	Print Form	V	
O	Description Codes	V	
O	Error Codes	V	

Repeat for as many subelements as needed

RECORD CONTENT SHEET NO.29

Record: CATALOG ENTRY RECORD Files: T10, T11
CATALOG

X	Record ID	F
X	Generating Element	V
O	Description Codes	V
X	Entry Type	F
X	Filing Code	V
X	Item Number	F
X	Elements	V

Elements

X	Element Code	F
X	Element Code Suffix	F
X	Statement of first subelement	V
O	Statement of second subelement	V
	etc.	

Filing Code

X Designator or Repeat Code
X Δ
X Catalog Code
X Δ
X Filing Code 1
O Δ
O Filing Code 2
etc.

RECORD CONTENT SHEET NO.31

Record: CATALOG ACTIVITY PRINT RECORDS
ERROR REMINDER LIST RECORDS
File: T10
P 1

X	Record ID (Report Type - RC)	F
X	Report Record Type	F
X	Item Number	F
X	Elements	V

RECORD CONTENT SHEET NO.32

Record: AUTHORITY UPDATE PRINT RECORD File: T10

P1

X	Record ID (Report Type RA)	F
X	Statement	V
X	Validity Code	F
X	Statement	V
O	Filing Form	V
O	Print Form	V
O	Description	V
O	Change Indicator	F
O	Valid Change	V
O	Public Notes (for additions)	V
O	Cataloger Notes (for additions)	V
O	Error Flags	F

RECORD CONTENT SHEET NO.33

Record: LC CROSS -REFERENCE PRINT RECORD File: T10 / P 1

X	Record ID (RX)	F
X	First Statement	V
X	Authority Check	F
X	Relationship Code	F
X	Second Statement	V

FIELD DERIVATION

File Name: INPUT Record Name: CATALOG RECORD

Content Sheet No. 1

Record ID

Always CW.

Change Type, Item No.

Transcribed unchanged from Catalog Worksheet.

Element Mark

Typist inserts an element mark preceding the information in an element every time he recognizes a new element.

Element No.

If an element no appears on the worksheet, the typist transcribes from the catalog worksheet. Otherwise no element no. appears in the input. An element number on the catalog worksheet is transcribed exactly as it appears, including the "—" symbol and the number following the "—".

The element number that appears in the catalog worksheet is subject to certain restrictions on length. If the first character of the element number is numeric, then the element number is two characters in length. If the first character of the element number is alphabetic, then the element number is one character in length.

Elements

One element appears in the record for each element of the catalog worksheet for which element number does not explicitly appear. For each element of the Catalog Worksheet in which element number appears explicitly, an element appears in the record only if data, has been entered for the element. In the case of elements without explicit element numbers, if no data has been entered for the element number, then the typist will type only the element divider.

Start Code Field, Codes, End Code Field

If present, these will always consist of a left angle bracket followed by codes followed by a right angle bracket. If the typist finds such a configuration immediately preceding the element statement she types it. Otherwise these parts are not present. This information will appear in the input as follows: first the left angle bracket, then the codes, the end of each code marked by a comma, then the right angle bracket. The codes can be of any length and there can be any number of them. Any combination of characters can appear as a code.

Remainder of the Element

The remainder of the element is transcribed by the typist from the Catalog Worksheet exactly as it appears. Coding will have been used within the element which allows the machine to distinguish the various parts of the element and process them accordingly. The following section describes the coding which distinguishes the various parts of the element.

Statement

The statement is the field which immediately follows the element mark, element number of codes field, depending upon the presence or absence of these fields. The end of the statement is indicated by either the presence of a left angle bracket, of an element subdivider, the presence of an element mark (i.e., the start of a new element), or the presence of a record mark (i.e., the start of a new record).

Filing Form and Print Form

If the statement is followed by a left angle bracket, then the information immediately following is either the filing form or the print form. It is the filing form if the statement contains a downward arrow, a left deletion symbol or a right deletion symbol, or if the left angle bracket is immediately followed by a downward arrow. If none of these conditions hold, then there is no filing form and the information immediately after the left angle bracket is the print form. The end of either the filing form or the print form is marked by a right angle bracket.

If there is a filing form, then if the right angle bracket of the filing form is not immediately followed by a left angle bracket, there is no print form. If the right angle bracket is immediately followed by a left angle bracket, then the data following the left angle bracket is the print form. The print form is terminated by a right angle bracket.

Additional Subelements

A delta or slashed delta marks the beginning of the new subelements. There may be as many subelements as needed. Each subelement has a structure consisting of codes, statement, filing form, print form which is exactly the same as that described above.

FIELD DERIVATION

File Name: TRANSACTION FILE 1 Record Name: ALPHA RECORD

Content Sheet 11

Record ID (F)

Set to internal ID for Alpha Record.

Change Type (F)

All records in Transaction File 1 are tagged as "add" records.

Alpha Field (F)

Derived from the main entry and title elements of the New Title Notice or Library of Congress Record from which this record was created. The construction of this field is not fixed at present and will have to be determined as a matter of experiment. An initial suggestion for personal names is the following.

Let the field be a twenty-character field. The first 10 characters are the first 10 characters of the main entry if the first word of the main entry is 10 characters or more. If the first word of the main entry is less than 10 characters, then the first 10 characters are the first word of the main entry followed by a sufficient number of blanks to total 10 characters. The last 10 characters are derived from the first significant title word. A significant title word is any word except "a", "an", or "the". If the first significant title word is 10 characters or more, the first 10 characters of this significant title word become the last 10 characters of the alpha field. Otherwise the last 10 characters of the alpha field are the first significant title word followed by sufficient succeeding characters (including the blank after the first word) to total 10 characters. The start or end of a "word" in the main entry or title is detected by the presence of a blank.

No method has yet been worked out for corporate names.

Note that regardless of what scheme is used for corporate names, it is clear that a different scheme will be used for corporate and personal names. Thus, in forming the Alpha Field, it will be necessary to refer to the description code in a New Title Notice or to the "Type of Main Entry" field in an LC record.

Types of main entry other than personal and corporate names will pose further difficulties. These also have not been worked out. It may be advisable to make no attempt at an alphabetic match in these cases and simply put these out for visual search.

Item Number

Transcribed from LC Card Number Field of LC Record. Transcribed from Item Number Field of New Title Notice.

FIELD DERIVATION

File Name: TRANSACTION FILE 1 Record Name: ALL RECORDS EXCEPT ALPHA RECORD

Record ID (F)

Translated from Record ID in the input record. For each Record ID that can appear in an input record an internal Record ID is defined. By table lookup the internal Record ID is obtained from the external Record ID. If the same Record ID's are used internally as are used externally, then this field is simply transcribed unchanged from the input.

Remainder of the Record (V)

Transcribed unchanged from the input.

FIELD DERIVATION

File Name: TRANSACTION FILE 5 Record Name: LC COPY PRINT RECORD

Content Sheet No. 17

When there is a match of an LC alphabetic tag with a local alphabetic tag in the Alpha Match run, a request is generated to extract the LC Copy to print a comparison of LC and local record. This printout will be used to determine if the two records are actually for the same item. If they are for the same item, a New Title Request must be made under the LC number to place it on the Item Master File. At the same time a request must be made via a catalog worksheet to change the local number to the LC number. The reason for manual intervention is that there is no guarantee that the alpha tag will be unique.

Record ID

Always "LP"

Local Item Number

Transcribed from the second item number on the LC Copy Request Record.

LC Copy

The entire LC record is transcribed from the LC Copy File.

FIELD DERIVATION

File Name: TRANSACTION FILE 6 Record Name: STANDARD CATALOG RECORD

Content Sheet No. 18

Record ID, Change Type, Item Number

Transcribed unchanged from the input record.

Element Code, Element Code Suffix

Derivation of elements for Catalog records which are marked as changes is straightforward. All elements present on these records must contain a specific element number (and element number suffix if needed). The Input Control specifications for element numbering do not apply.

When the Catalog record is marked new, however, the Input Control may be used extensively in assigning element numbers (and element number suffixes).

There are three options for element numbering to be found in the Input Control:

1. Start Element number.
2. Fixed length elements
3. Separate element generation

These options are discussed fully in the system definition. Here, the mechanics in deriving element numbers with these options will be defined. One or more elements will be generated under the Input Control for each element on the Catalog record unless the element consists of an element mark only.

If the Start Element Number is present, and the Catalog record is marked new, associate a position number of 1 with the first element of the Catalog record. This position number will be modified as the record is scanned, and as the Input Control is used. The logical sequence of element numbering is listed below.

Initial conditions: Catalog record marked new. Position counter is 1. Start element indicator set on if start element option is present.

1. Is the Start Element indicator on? If no, go to step 4.

2. Is the position counter less than the Start Element Number? If no, set Start Element Indicator off and go to step 4.

3. Assign the position counter value to this element and increase the position counter by one.

4. Now scan the Input Control for the element number present in this field. Absence of an Element number at this point is an error condition.

5. Does the Input Control specify the Fixed Length element option? If no, go to step 10.

6. Construct an element using the required number of characters and perform all edit functions.

7. Is this the end of the record? If yes, go to step 14.

8. Is the next character following the extracted characters an element mark? If yes, go to step 1.

9. Place an element mark before the first valid character, set the position counter to the previous number plus one and go to step 3.

10. Does the Input Control specify the separate entry generation option? If no, go to step 13.

11. Construct elements with suffixes and edit until the next element divider or end of record is reached.

12. Is this the end of the record? If yes, go to step 14. If no, go to step 1.

13. Construct element to next element mark, edit, go to step 12.

14. Set the position counter to 1 and set Start element indicator to initial condition. Continue to next record.

Entry Control Code

If any one of the codes M, T, X or Z appears in the Codes field of the input element, the entry control code is determined by this code as follows: M - Main Entry; T - Added Entry; X - No Entry; Z - Entry Repeat.

If none of these codes appear, then this code is determined by the code in the "Entry Generation" field of the input control notice for external element number that corresponds to this element. The determination is as follows: M - Main Entry; T - Added Entry; Z - Entry Repeat; Blank - No Entry.

Designators

One designator occurs for each designator in the input element. Depending upon programming considerations, the designator codes in the output element could be defined to be the same as the codes in the input element, or a conversion could be specified. See Programming Notes 1 and 2.

The designators in the input element, if present, are among the codes in the Codes field of the input element. In order to distinguish the designators from the other indicators and the description codes that can be present in this field, the following rule is used: A designator in the input element is any code in the Codes field which satisfies all of the following conditions:

1. The first character is M, T, or X
2. It is more than one character in length
3. In the "Valid Description Codes and Indicators" field in the Input Control Notice data for this external element number there is a code that starts with * and with following characters which are identical with the characters after the first of the code under examination.

Subelements

One subelement is created for each subelement in the input element. A subelement of the input element is all of the data between a △ or △̸ symbol and the next △ or △̸ symbol or the end of the element. The parts of the subelement are obtained as described below.

Authority File Number

For the first subelement the authority file number is taken from the input control notice for this element number unless the first subelement in the input record is preceded by a △ or △̸ symbol. If the first subelement is preceded by a △ symbol, the authority file number is taken from the input control notice if this number is not blank in the input control notice; it is blank if the authority file number in the input control notice is blank. If the first subelement is preceded by a △̸ symbol, then the authority file number is blank.

For subsequent subelements the authority file number is determined by the presence of the preceding △ or △̸ and the rule for the determination is the same as that given above in the case when the first subelement is preceded by a △ or △̸.

Statement

Transcribed from the statement field of the input subelement with only the following change:

All ↓ and ⌈ and ⌉ symbols are removed and the remaining characters are moved to close up the space that they occupied.

Filing Form

This is present only if one of the following conditions is met:

1. There is a ↓ symbol, a ⌈ symbol, or a ⌉ symbol in the statement field of the input element.
2. There is a ⟨ bracket immediately following the statement in the input element, and there is a ↓ immediately following this bracket.

If either of these conditions is met a filing form is present. The filing form is constructed from the statement field and filing form field of the input element exactly as described in the system definition in the section entitled Filing Form and Printing Form. This description will not be repeated here.

Print Form

A print form field is present only if there is a print form field in the input subelement. A print form is present in the input subelement, if there is no filing form and the statement of the input element is followed by a ⟨ bracket, or there is a filing form and the ⟩ bracket that terminates the filing form is followed by a ⟨ bracket. The print form is transcribed from the input element unchanged.

Description Codes

The description codes are derived from the Codes field of the input subelement. Description codes are distinguished from other codes in this field by means of the rules that are given inthe paragraph immediately following this. The description codes in the input subelement are either transcribed unchanged or are converted, depending upon certain programming considerations. See Programming Notes 1 and 2.

General Statements on Editing of the Codes Field in the Input Element

The Codes field of the input element contains two classes of codes: Indicators and Description Codes. An indicator is a code which indicates some definite predefined action which the computer system is to take, an action which has been programmed into the system. A description code is merely a piece of descriptive information which is carried along into catalog record. No actions based upon specific description codes are programmed into the system. However, the presence of the description codes makes a certain amount of system control possible by means of control cards which refer to description codes, and they make possible the preparation of special programs at some later time which would select based upon description code.

Indicator codes are identified by the following rule: the indicator codes for the computer system are the single letters, M, T, X, Z and N and also certain multiple letter combinations starting with M, T, or X. A multiple letter combination starting with M, T, or X is an indicator code if in the input control notice for this external element number, there is present in the "valid indicators and description codes" field the same multiple letter combination but with the leading M, T, or X replaced by an asterisk.

Any code found in the codes field which is not an indicator according to the above description is either a description code or is invalid. If it is a description code, it must match one of the codes in the "valid indicators and description codes" field of the input control notice. Otherwise it is an error.

FIELD DERIVATION

File Name: TRANSACTION FILE 6 Record Name: HEADING CHECK RECORD

Content Sheet No. 20

Heading Check records are generated from three types of records:

Standard Catalog Record
Established Form Change Record
Authority Records (cross-references)

Record Type

Always HC

Establishment Code

Generated from the Authority File number on Standard Catalog records or Authority records. For EF Changes the Establishment Code is the Establishment code for Main Authority File.

Statement

For Standard Catalog records the Statement is transcribed from the element. For EF Changes the change-from Statement and change-to Statement are each transcribed onto separate Heading Check records. For Cross-References each of the Statements are transcribed onto separate Heading Check record.

Item Number

For Standard Catalog record the Item Number is the Item Number of the Standard Catalog record.

For EF Changes the Item Number is a generated number which identifies the record as a EF Change and serves to bring together the two halves of the EF Change record at a later point in the system.

For the Cross-Reference the item number is generated in parts. The first part identifies the record as a Cross-Reference and serves to bring together the two halves of the Cross-Reference. The second part defines the source (LC or Local) and the relationship (see, see also, see from, see also from, transform).

Element Code, Element Code Suffix, Subelement Number

For Heading Check records generated from Standard Catalog records these fields are transcribed unchanged.

FIELD DERIVATION

File Name: TRANSACTION FILE 6 Record Name: AUTHORITY UPDATE RECORD

Content Sheet No. 21

Record ID

Always "AU"

Establishment Code

Generated from the File Number on Authority record

Statement

Transcribed from the Established Form field on the Authority Record if there is no Code element present. If a code element is present the Code element is the Statement.

Change Type

Record can be an addition, change, or deletion. Code derived from Change Type on Authority record. For deletions this character marks the end of the record.

Filing Form

If a Filing Form element is present on the Authority record it is transcribed on this record.

Print Form

If a Print Form element is present on the Authority record it is transcribed on this record. If the statement field was generated from a Code element on the Authority record there will be no explicit print form. The Established Form on the Authority record is transcribed as the Print Form when a Code is used as Statement.

Description Codes

Transcribed unchanged from the Authority Record

Cataloger Notes, Public Notes

If present, transcribed from Authority record without change.

FIELD DERIVATION

File Name: AUTHORITY CHECK FILE Record Name: ESTABLISHED FORM

Content Sheet No. 22

Record ID

Always "AF"

Establishment Code, Statements

Transcribed from input

Disposition Code

For those Statements which are coded "do not trace" an indicator is placed in this field. Where the LC Statement is to be transformed an indicator is placed here.

Second Statement

Where the Disposition Code indicates a transformation is to take place the Statement to be used appears here and the following fields refer to this statement.

Filing Form, Print Form, Description Codes

For all but the transformation type records the fields are transcribed unchanged from addition records. Changes are made to Established Form records only under the following conditions:

1. No EF Index Records - Filing, Print, designator change
2. Change to Public or Cataloger Notes

The transformation record requires the recycling of Filing Form, Print Form, Designators from the "change-to" record on the Authority Check File. This is done by using the Heading Check record to signal that the information is to be recycled. A Cross-Reference Confirmation record will be used to recycle this information.

FIELD DERIVATION

File Name: TRANSACTION FILE 8 Record Name: HEADING

Content Sheet No. 24

Record ID

Always "HH"

Item Number

Transcribed from Heading Check record

Error Indicator

If the Statement was found invalid when checking against the Authority Check File that condition is indicated here.

Element code, Element code suffix, Subelement number, Statement

Transcribed from Heading Check record

Filing Form, Print Form, Description Codes

Transcribed from Established Form record, where present, when the Statement was valid.

FIELD DERIVATION

File Name: TRANSACTION FILE 8 Record Name: CATALOG AUTHORITY ENTRY

Content Sheet No. 25

Record ID

The following record types exist:

Entry Addition (or replacement)	CA
Entry Deletion	CD
Cross-Reference entry-print cross-reference	CP
Cross-Reference entry - suppress print	CS
Cross-Reference entry - delete	CX

Statement Filing Form

Transcribed from Filing Form of Established Form record for "CA" "CD" records.

Formed by transcribing Filing Form of first Statement on Cross-Reference record, followed by Relationship Code, followed by Filing Form of second Statement. When the record type is "CD" or "CX" this is the last field in the record.

Statement Print Form

The same structure exists for Print Form field as for Filing Form field except that Print Forms are transcribed instead of Filing Form.

Public Notes, Cataloger Notes

Transcribed unchanged for "CA" records.

FIELD DERIVATION

File Name: ITEM MASTER FILE Record Name: CATALOG ITEM RECORD

Content Sheet No. 27

The Input Group

All of the records in the input which can affect a Standard Catalog Record on the Item Master File are:

Standard Catalog Record on T9
Heading Record on T9
Standard Catalog Record on Input IMF
Special Request Record on T9
LC Copy
New Title

Any group of these records with a common item number will affect the derivation of a catalog record with this item number on the output IMF.

Record ID

Always CW

Item Number

Same as item number of input group.

Date

The basic cycle number in which the most recent modification to this record for this item number was made is entered here.

Hold Period

Determined by the records in the input group in the following priority:

Special Request Notice with Hold Code of 1 or 2
IMF Catalog Item Record
T9 Catalog Record

Determination is as follows:

Input Record Making Determination	Input Hold Code	Hold Period In Output
Special Request	Enter now	0
Special Request	Hold	Taken from input hold period
IMF Catalog Record		Taken from input hold period
T9 Catalog Record		Pre-set standard delay time

Status Code

The following status codes are possible:

0 - Records have been sent to the Catalog for this item. Any change to or deletion of this item from the Item Master File requires corresponding changes to the Catalog.

1 - The record reflects any changes made by catalogers and is either in error and awaiting correction or is correct and awaiting expiration of a hold period. When the hold period expires records will be generated for the Catalog File and the status code will be changed to 0.

2. This record is LC Copy unchanged by catalogers. If catalogers, upon review of this record, make changes the modified record will be given a status code of 1. If no changes are necessary and the record is not in error, Catalog entries will be generated from this record when the hold period expires and the status code will be changed to 0.

3 - This record is a New Title Record. Rules for using this record are the same as for status code 2.

4. This record is LC Copy which matches an existing Catalog Item record with a status of 0 or 1. It remains on file to allow catalogers to make a comparison of local cataloging and LC cataloging. If the cataloger decides to ignore LC Copy the record expires. If the LC Copy is to be accepted the cataloger must input a "change LC" record. A "change LC" record causes a deletion of all local cataloging.

5. This record is a deletion in a hold period. It is generated when a record with a status of 0 is deleted or when it is changed.

The decision table on Page 24 defines the logic for updating the Item Master File.

Elements

Each element of the record is derived using the standard procedure described below.

Derivation of Elements

In the following discussion "matching" means a match on item number element code, and element code suffix.

Element Code and Element Code Suffix

If there is a matching element in a Standard Catalog Record on T9, then these are taken from the record on T9. Otherwise they are taken from the Standard Catalog Record on the input IMF.

Statement, Filing Form, Print Form, and Description Codes For Any Subelement

Taken from the first of the following matching data items that is present in the input.

Remainder of the Element

The remainder of the element is derived by the following procedure:

1. Define an intermediate element as follows: If only a T9 catalog record or only an IMF catalog record is present in the input group, then the intermediate element is taken from the record that is present. If both are present then the intermediate element is taken from the record that is present. If both are present, then the intermediate element is the element from the T9 record, unless the T9 record element has no statement field. In this latter case the intermediate element is taken from the IMF record.

2. The final element is obtained from the intermediate element by application of any matching T9 heading records. If there is a matching T9 heading record, then apply this to the subelement which has the position indicated by the subelement number in the heading record. The statement, filing form, print form, and description codes are taken from the heading record.

All of the data is transcribed unchanged except for Establishment Code, which is derived from the input Authority File Number as follows:

Authority File Number	Establishment Code
00	0
01	1
any other	2

FIELD DERIVATION

File Name: TRANSACTION FILE 10 Record Name: CROSS REFERENCE CONFIRMATION

Content Sheet No. 13

The paired Heading records must both have valid statements.

Record ID

Always "AX"

Record Type

Defines three record types:

1. LC Cross-Reference
2. Local Cross-Reference
3. Transformation recycling information

Developed from the suffix of the Heading record Item Number.

First Statement

The "referenced-to" Statement appears here for Cross-References. The "changed-from" Statement appears here for transformation recycling information.

Relationship Code

Indicates "See-from" or "See-also-from" relationship for Cross-References. Redundant in transformation recycling records. Derived from the suffix in Heading record Item Number.

Second Statement, Filing Form, Print Form

The "referenced-from" Statement information or the "change-to" information is transcribed from the Heading record.

FIELD DERIVATION

File Name: TRANSACTION FILE 10 Record Name: EF CHANGE CONFIRMATION

Content Sheet No.5

After the two Statements have been checked against the Authority Check File they are sorted together to be recombined in run 10 (see the Field Derivation for Heading Check records and Heading Records). The EF Change Confirmation Record is regenerated only if both Statements are valid.

Record ID

Always "EF"

Old Statement, New Statement

Transcribed from the Statement fields of the paired Heading records separated by a distinctive Separator Character.

FIELD DERIVATION

File Name: TRANSACTION FILE 10 Record Name: CATALOG ENTRY RECORD

Content Sheet No. 29

All fields in the Catalog Entry Record are derived from the Item Master File Catalog Item Record for that item number. Each catalog entry is associated with a specific element number and possibly also with a specific catalog designator or with a specific repeat code. By "repeat" code is meant an element statement of an element with entry control code "entry repeat". An entry that has not been generated for a catalog designator or for a repeat code will be called an entry for the principal catalog.

Record ID

Always "CE"

Generating Element

This is the Element Code and Element Code Suffix of the element that generated this entry.

Description Codes

These are all of the description codes associated with the element that generated this entry.

Entry Form

If the entry is for the principal catalog or for a repeat code, then Entry Form is translated from Entry Control Code of the input record as follows:

Entry Control Code	Entry Type
Main Entry	Main
Added Entry	Added

If the entry was generated by a catalog designator, then the Entry Form is derived from the first character of the catalog designator as follows:

First character of designator	Entry Form
M	Main
T	Added

Filing Code

Constructed from the elements specified in the Sequence Notice. The following procedure is used:

1. The proper Sequence Notice is selected. The selection is based upon the Generating Element, Description Codes, and Entry Type constructed for the output record, and also possibly on the content of a specified element in the record. The procedure for selecting the Sequence Notice is as follows:

   a) Find all Sequence Notices for which the Generating Element Field of this record matches any element number in the Generating Elements Field of the Sequence Notice, or for which the Generating Elements Field of the Sequence Notice is blank.

   b) From all Sequence Notices selected in a), select all those for which any code in the Description Codes field of this record matches any code in the Description Codes field of the Sequence Notice, or for which the Description Codes Field of the Sequence Control Notice is blank.

   c) From all sequence notices selected in b), select all those for which Entry Form in this record matches Entry Form in the Sequence Notice or for which Entry Form in the Sequence Control Notice is blank.

   d) Inspect the Matching Element Code of all Sequence Control Notices selected in c). Select the first Sequence Notice which meets either of the following conditions:

      (i) The Matching Element Code Field is blank

      (ii) In the IMF input record, the element whose Element Code matches this code in the Sequence Notice has a Statement field which matches the Statement field of the Sequence Notice.

There should be exactly one Sequence Notice which satisfies the conditions in d), or if there is more than one, it should be irrelevant which is taken. If there is no Sequence Notice that meets the conditions, the generation of all entries for the item number involved should be suppressed and an error record for this item number should be put onto the error report. (We realize that this is a very difficult programming procedure; however, we see no acceptable alternative.) If there is more than one Sequence Notice that satisfies the conditions, the first one encountered is used as stated in step d) above and no special message is put out.

2. If this entry has not been generated for a designator or repeat code, insert a Δ symbol. If it has been generated for a designator or repeat code, insert the designator code, without the leading M or T character, or the repeat code. Follow the code with a Δ symbol.

3. Copy the Catalog code from the Sequence Notice. Follow this with a Δ.

4. Inspect the first filing unit in the Sequence Notice. If the Element code is the "actual characters" code, then pick up the data from the Filing Characters field of the filing unit and insert into Filing code that is being constructed.

5. If the Element code is not the "actual characters" code, then find the element in the input record which corresponds to the element code and element code suffix in the filing unit. Find the subelement that corresponds to the subelement number in the filing unit. Take the filing form of that subelement, if present, and insert it into the filing code. If there is no filing form, then insert the print form if present. If there is no print form insert the statement.

6. Follow the portion of the filing code constructed in step 4 or 5 with a Δ symbol.

7. Repeat the procedure of steps 4, 5 and 6 for each filing unit in the Sequence Notice until all filing units have been accounted for.

Item Number

Transcribed unchanged from the input record.

Elements

One element in the Catalog Entry record is created for every element in the Catalog Item Record on the Item Master File. The element code and element code suffix are transcribed unchanged. For each subelement the statement of the input record is transcribed unchanged unless there is a printing form. If there is a printing form the printing form of the input subelement is transcribed as the statement of the output subelement.

CODE LISTING

Cards Code

0 No Action
1 Print Cards

Change Type

0 Addition
1 Modification to existing record
2 Deletion

Disposition Code

0 Normal Authority Entry
1 Do Not Establish
2 Transform

Entry Control Code

0	No entry	No entry for this element in the principal catalog.
1	Main entry	There is a main entry for this element in the principal catalog.
2	Added entry	There is an entry for this element in the principal catalog. It is not the main entry.
3	Entry report	For every element that has an entry generation code of "trace main" or "trace added", duplicate an additional entry for the catalog designated in the element that is coded "trace repeat".

Entry Type

1 Main
2 Added

Error Indicator

0 No error
1 Invalid Statement

Hold Code

0 No action
1 Enter Now
2 Hold

CODE LISTING

Hold Period

0 to 99 cycles...99 means hold indefinitely.

IMF Error Code

0 None
1 Authority file error
2 Non-authority file error
3 Both authority and non-authority errors

Internal Change Types for Catalog Records

Add
Change
Change LC
Change Main
Delete
Change EF

Proof Code

0 No action
1 Print proof

Relationship Code

0 See from
1 See also from
2 Transform LC Statement

Report Record Type

0 No errors
1 Non-establishment error
2 Established Form error
3 Item Number Change
4 LC Copy (Bibliographic Record)

CODE LISTING

Status Code

0 Record in catalog
1 Addition in hold period
2 Addition derived from LC copy, in hold period
3 Addition derived from NTN, in hold period
4 LC record in alternate status
5 Deletion in hold period

Validity Code

0 Valid addition to file
1 Valid change to file
2 Valid Deletion
3 Invalid addition
4 " change
5 " deletion

ERRORS - SYSTEM

1. No matching LC Copy in run 5 for request generated in run 3.

2. No matching record on alpha file for delete generated in run 10.

3. No matching LC Copy on dormant LC file for request generated in run 5.

4. Negative count on Authority Check File record after all counts have been applied. (This does not mean that the count cannot temporarily be negative)

5. No match of Item Master request with Item Master records on Supplement or Main Item Master File.

6. No matching record on the Catalog File for a delete generated in run 10.

7. Any out-of-sequence condition on Master Files.

8. LC Copy input matches LC Copy record on LC Copy file in run 5.

9. Unmatched Authority Count records.

10. Unmatched Heading records in run 10 for records generated in run 6 for check of Cross References on Mass Changes.

11. Record cross-referenced on current Item Master File is not present on Supplement. Cross-reference on Supplement not on Main Item Master File.

12. Authority Update record to cause printing or suppression of printing is unmatched by Catalog record.

ERRORS - CATALOGING

1. Incomplete information on Item Master Record.

2. Field marked "Established" is invalid.

3. Change to Item Master File is unmatched by Item Master record and is not marked "Main". During Supplement time, if there is no match between a request marked Main and a cross reference to the Main Item Master File.

4. Addition to Item Master File is matched.

5. Deletion to Item Master File is unmatched.

6. Invalid codes on catalog worksheet.

7. No match between LC Print record and Item Master File record.

ERRORS - AUTHORITY

1. Invalid form of input; i.e., close bracket before open bracket; open bracket with no close bracket.

2. Invalid description codes present in input.

3. Addition record is matched by record on file.

4. Deletion or change record is unmatched.

5. Invalid Authority file number.

6. Deletion record entered for an Established Form on the Authority Check File which has a non-zero count.

ERRORS - GENERAL

1. Undefined record in input run 1.
2. Incomplete or invalid Control Notices.

CONTROLS

The system error checks based upon the interdependence of the various files in the system with each other are good control mechanisms. It is felt that these numerous system checks performed in the course of normal processing are sufficient control. Introduction of additional controls would require complicated programming and may cause more errors than the controls would detect.

Controls should be independent check on the correctness of the system. It is felt that any controls that may be introduced would require procedures which are logically equivalent to the processing procedures. Use of non-independent controls is more misleading than having no controls.

One possibility for a control on external procedures which may be monitored by the system is to produce a total of catalog worksheets processed which can be compared with a total kept by the cataloging section to ascertain that all catalog worksheets have been entered into the system.

PROGRAMMING NOTES

1. Conversion of External Codes to Internal Codes

It may be desirable to convert codes used on input forms such as the catalog worksheet to special internal form to save space. For instance, it may be possible to convert a multi-character code on the input to a single character code internally. It may be possible to use bits internally to represent conditions shown by characters externally. The possibility of doing this will depend upon the programming language used, and upon the degree of orientation toward the characteristics of a particular computer. For instance, if COBOL is used, and it is desired to use it in a way that is minimally oriented toward the characteristics of any particular computer, then such conversion may not be advantageous or may not be desirable. Generally, the advantage to be gained from such a conversion will be related to the characteristics of a particular machine. For instance, if a machine with an 8-bit character structure is used and programming is machine oriented, then it would be desirable to convert the external element code to a single 8-bit internal element code. This would be entirely possible since the external element code allows 100 numeric combinations and 26 alphabetic combinations. The 8-bit character code allows 256 total combinations. It would be possible also to program the conversion without table lookup. Any conversion requiring a table lookup should be avoided, since this means that a change of codes on the catalog worksheet would require a programming modification for the table, whereas conversions that are programmed would occur automatically, and the introduction of new elements to the catalog worksheet would be accomplished simply be a change in the input control.

2. Format for Standard Catalog Element

Since the greatest part of the Item Master File data consists of the Elements of the cataloged record, it is important to comdense the standard element as much as possible. While the machine and programming language to be used in implementing the system must be the determinants of how much condensation is possible, several suggestions will be made here which will provide reduction in the size of the Standard Catalog Element. The discussion will assume a machine has 8-bit character memory and that the language used allows manipulation at the bit level. If the language used in programming the system has awkward bit manipulation syntax, consideration should still be given to the more complicated coding to reduce the size of file and thus reduce the input-output time.

Use of a 6-bit machine can still provide savings if data is held at the bit level.

Element Code:

The input format allows for 100 numeric combinations and 26 alphabetic characters for a total of 126 possible Element Codes. Seven bits may be used to represent these combinations. The eighth bit may be used to indicate the presence of a suffix.

Element Code Suffix - Entry Control Code:

Two bits are required to represent the possible Entry Control. The remaining six bits allow 64 possible suffixes. This appears to be a reasonable restriction on the number of suffixes that are needed. For both the Element Code and the Element Suffix Code, the transformation should be made by programming rather than by table lookup.

Designators:

To avoid the necessity of table lookup and of making modifications to the programs each time a designator is added, it is suggested that designators not be kept in bit format. If Designator Codes are limited to one or two alphabetic characters, savings can be made by reducing the alphabetic characters to six bits and replacing the comma separator by two zero bits. It is possible to use only two zero bits for separation of designators because six bit alphabetic characters require that one or both of the two high order bits must be one.

Establishment Code:

Two bits are required to define the establishment status of the element. The remaining six bits can be used to hold other information. For example,

bit 5 - Establishment Error
bit 4 - Last subelement
bit 3 - Filing Form present
bit 2 - Print Form present
bit 1 - Both zero to define subelement division
bit 0 - " " " "

It is suggested that the close angle brackets be dropped from all but the last field and that the presence of the open angle bracket be kept to divide fields.

Description Codes:

Description codes can be condensed in the same way that Designators are.

3. Use of Element Dividers to Indicate Field Length

Element Dividers and Subelement Dividers of some sort must be present in the record and reservation of special characters for this purpose provides the simplest method of delineating fields of a record. If a machine with an eight-bit character memory is used, a more efficient method may be considered.

The eight-bit byte may be used to indicate a field length up to 256 characters. To allow the use of a byte in this way requires that the programming language be close to the machine language level; i.e., an assembly language rather than a compiler language.

The field length divider is not a special reserved character. It may be any character. It is significant only in relation to the beginning of the record or to the previous field length divider. It may be used as part of a machine language instruction providing efficiencies in manipulating Elements or Subelements.

The use of this type of divider does not restrict the field length to 256 characters. If the field length is greater than 255 characters, the first 255 characters will be contained in the first field, and the field length indicator will be set to 256, indicating that the next field is a continuation.

SYSTEM PARAMETERS

P 1	Number of basic cycles an LC record remains on the LC File before it is deleted and put onto the Dormant LC File.
P 2	Number of basic cycles an LC copy request is kept on the LC File before it is dropped.
P 3	Number of basic cycles an LC record is kept on the Dormant File before it is dropped from the system.
P 4	Number of basic cycles a Catalog Item Record is kept on the current IMF after it goes into supplement.
P 5	Number basic cycles a Catalog Item Record remains on the Item Master File before a Catalog Entry Record is generated.
P 6	Number of basic cycles a type 1 Cross Reference Record remains on Item Master File before it is deleted.
P 7	Number of basic cycles a Catalog Item record with an error must be on file before it is printed on the Error Reminder List.
P 8	Number of basic cycles LC Copy which was used for cataloging will remain on the Dormant LC File.

OPERATING PARAMETER

C 1	Basic Cycle Number
C 2	Dormant Cycle Number
C 3	IMF Supplement Cycle Number
C 4	IMF Main Cycle Number
C 5	Catalog Supplement Cycle Number
C 6	Catalog Main Cycle Number
C 7	Error Reminder List

For parameters C 2 thru C 7 the value is zero if the option is not being run.

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SUMMARY DESCRIPTION OF COMPUTER SYSTEM FOR CATALOG MAINTENANCE*

The Input Data Required By The System

1. For each new item that is cataloged a catalog worksheet must be submitted. This contains the usual type of descriptive and subject cataloging information.

2. Catalog worksheets must be submitted for changes to or deletions of previously submitted catalog information.

3. When an established form not previously used appears on a catalog worksheet, a special mark must be put by that established form on the catalog worksheet to indicate that it is to be newly established, or an authority file worksheet must be entered to establish the form.

4. Authority file worksheets must be entered to make changes to previously established forms, or to enter or change cross-references or notes for established forms.

5. Library of Congress copy in MARC machine-readable form must be entered if the machine features that allow search for Library of Congress copy are to be used.

6. A request to search the machine file for MARC copy must be entered for each title on which such a search is to be made.

What The System Does

Principal Results

1. The system produces catalog cards, shelf list cards and cross-reference cards for all items which are cataloged, if it is indicated that card output is one of the outputs desired from the system.

2. The system will produce magnetic tape from which master copy for offset production of a book catalog can be prepared, using a computer printer or a photocomposition device, if this is indicated as one of the desired outputs from the system. The system will also prepare a shelf list in printed page form, if desired.

3. The system will prepare an authority file listing in printed page form on the computer printer.

Features Related to Use of Library of Congress MARC copy

1. Upon request the system will search for the presence of MARC copy for any title. If MARC copy is present, printed proof copy for inspection by the cataloger will be produced. The cataloger may submit changes to MARC copy or may submit a new catalog worksheet which entirely replaces the MARC copy.

2. If MARC copy was not available when the search was made and original cataloging was carried out and later MARC copy is received, proof copy based on the MARC copy will be prepared for the cataloger to review. He can then change his original cataloging if he so desires.

3. If certain differences must exist between the established forms of names and subjects used in MARC copy and those used by the Library at which the system is in use, then for each such form one of the following options can be indicated:

   a. The system will automatically change from LC form to the designated local form.

   b. The system will not change the form but on the proof copy for each catalog worksheet on which this form appears, the established form will be flagged to notify the cataloger that it is not locally used in this form and must be changed by him.

Preparation of Proof Copy and Correction of Errors

1. The machine will produce proof copy for each original catalog worksheet entered for newly cataloged items, or for each MARC record that is found in response to a request for a MARC search for a new title. Because of the fact that the main entry, all added entries and all subject entries are generated by the machine from the information in the catalog worksheet or in the MARC copy, it is not necessary to proofread each of the entries. Proofreading of the single proof record that is produced by the machine is sufficient to assure correctness of all entries.

2. If the reading of the proof copy shows that a change should be made to the catalog information entered, the change is made by submitting to the machine new information for only those individual elements which are to be changed (e.g., title, edition, notes). After each change, the machine system will produce new proof copy.

3. The machine will check every name and subject that appears on the catalog worksheet against the machine-maintained authority file. If errors are discovered, these will be marked on the proof copy. The original cataloging information will be held in the machine, but not used for production of catalog entries until the error is corrected. Correction can be made by correcting the cataloging information for the item on which the error was discovered, or, if it is discovered that the machine authority file is in error, by correcting the machine authority file. If an item remains in the machine file for too long a period without correction, proof copy is printed again as a reminder.

4. Whenever a new entry to the authority file is made or a change to or deletion of an old entry is made, proof copy is produced for review (authority file audit list).

Recataloging and Changes in Established Forms

1. Recataloging is relatively simple to carry out. The new data is submitted. Only the elements that are being changed need be submitted. The machine system will print corrected catalog cards for all entries, if card output is desired. If a book catalog is in use, then the next issue of the catalog will contain the corrected forms of the entries. If the recataloging results in additional subject or added entries, these additional cards will be prepared or the additional entries will appear in the book catalog.

2. If it is desired to make a change in the spelling of an established name or subject, or to re-establish the name or subject in a completely new form, or to take entries that have been previously classified under one subject and

put them under another, then an established form change request is submitted to the machine. As a result of this, the machine will locate the master catalog record for all catalog items for which this form had been used and change the record accordingly. If cards are in use as an output, the machine will produce new cards for all items affected. If a book catalog is in use, the next issue of the catalog will show the new form of the subject or name in its proper alphabetic sequence. The old form will have been eliminated and all entries that had appeared under the old form will appear under the new form.

Cross-Reference Control

1. Cross-references may be established in "see" or "see also" form and automatically the corresponding "see from" and "see also from" references will be generated for printing in the authority file list that is prepared for cataloger use. Conversely, the entry can be originally established in "see from" or "see also from" form and the proper "see" and "see also" references will be generated for printing in both the Public Catalog and the cataloger's authority file list.

2. Blind cross-references will not be printed in the catalog. If the machine discovers a cross-reference for which there is no entry under the referred-to heading, it will not print the cross-reference. The cross-reference will be printed the first time an entry is made under the referred-to heading.

The Catalog Worksheet

1. The system does not require a fixed, rigidly prescribed form of catalog worksheet. The system will accept a variety of catalog worksheet designs, depending upon the needs of the individual library.

2. The catalog worksheet used for original cataloging can adhere completely to the definition of information elements and codings of element characteristics that are used in the MARC records. However, this is not required. Deviations from this can be made if desired.

3. There is nothing about the catalog worksheet specifications that is specialized to book material, or to any other type of material. The catalog worksheet design can be prepared that is appropriate to the type of material.

4. Filing rules have not yet been prescribed for the system. However, regardless of the filing rules program that is adopted, there is provision for specific indication of the filing procedure that is to be followed in any exceptional case which the programmed filing rules cannot deal with. For established forms, this special filing information is entered on the machine authority file and is

used every time the established form is used. For non-established forms this special filing information is entered directly on the catalog worksheet.

5. Every element may be further subdivided into distinct portions by special symbols called delimiters; for instance, the title can be divided into the main portion of the title and the title extension. The imprint can be divided into publisher, place and date, or alternatively publisher, place and date can each be established as separate elements, if so desired.

6. Because of the variability of the design of input worksheets that is allowed, it is necessary to give the computer system certain information about the particular form of worksheet that is in use. This is done by means of the input control notice. This is prepared at the time the system is first put into operation and is entered only once at that time. If a change to the form of worksheet is desired at some later time, then a new input control notice must be prepared and entered. The input control notice tells certain vital information about each element which will be used on the catalog worksheet. For instance, it tells whether or not the element contains established information which is to be checked against the machine authority file; it tells whether or not the element is a tracing element from which a catalog entry is to be generated.

7. The information about entry generation that is given on the input control notice may be overruled by specific indications on the catalog worksheet. For instance, the control notice may state that an entry is to be generated for the title. However, an indication on the catalog worksheet can suppress this. Conversely, the control notice may state that no element is to be generated for the title. Nevertheless, an indication on the catalog worksheet can cause generation of an entry.

The Authority File Worksheet

1. This is fixed in format. Format variability like that described for the catalog worksheet is not allowed.

2. The authority file worksheet allows entry of the following information:

   a. The full and correct spelling of the established form must be entered.

   b. Special filing information can be entered, in cases where the programmed filing rules will not suffice.

   c. Description codes which give information about the nature of the established form can be entered; e.g., codes can be used to distinguish between personal and corporate names.

d. Explanatory notes can be entered for printing in the catalog.

e. Cataloger notes can be entered. These appear only in the printed authority file, not in the catalog.

f. Cross-references can be entered. As stated above, they can be entered in "see" and "see also" form or in "see from" and "see also from" form.

The Printed Catalog Entries

1. Considerable variability in the format of the catalog entries is allowed. The format can be established at the time that the system is put into use and left unchanged, or several formats can be adopted, one for the regular catalog and one or more for special purposes and these variations can be indicated at time of printing.

2. The particular choice of format is specified to the machine by means of three notices called: The content notice, the format notice, and the sequence notice.

3. By use of the content notice, it is possible to print in the catalog entry all of the information that was entered at the time that the item was cataloged or only part of it. Furthermore, the amount of information printed can be made to vary in accordance with the type of entry. For instance, the main entry can be specified to contain all information, while subject and/or added entries could be printed in abbreviated form. The content notice specifies which elements of the catalog worksheet are to be printed and the order in which they are to be printed. If portions of an element have been marked off on the catalog worksheet by means of delimiters, then the content notice can specify that only a portion of the element is to be printed.

4. The following aspects of the format of the entry are under the control of the format notice:

   a. Whether or not a new element is to start on a new line.

   b. The amount of space from the preceding line, if an element does start on a new line.

   c. Indentation, if any, on the left and on the right, if an element does start on a new line.

   d. Number of spaces from the previous element, if an element starts on the same line.

e. Typeface in which the element is to be printed.

5. The sequence notice states what elements of the catalog record are to be used in determining the filing sequence in the catalog. For instance, for entries under a given subject, the sequence might be specified as determined by main entry, title, date of publication.

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* Summary of a report prepared for the New York State Library by the Theodore Stein Company entitled "Proposed Computer System for Library Catalog Maintenance" (Albany, University of the State of New York, 1967) 2v.